

Nation's Business

A GENERAL MAGAZINE FOR BUSINESSMEN

APRIL 1953

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LESSON IN BRANCH PLANT CITIZENSHIP

SEE PAGE 25

ELECTRONICS — too tough for G I's ?

RICHARDS W. COTTON

ROAD BLOCKS TO GOOD HIGHWAYS

WILLIAM J. SLOCUM



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Painting above shows on-the-scene operation of 2-ton B-4 Dodge truck owned by R.F.S. Company, Chicago, Ill.



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That's the LITTLE GIANT with the Big Future

The *Transistor*—invented at Bell Telephone Laboratories—opens new doors to far-reaching improvements in telephone service and in other fields



Many important inventions for communications have come from the Bell Telephone Laboratories. Seldom, however, has there been a new discovery with the exciting promise of the *Transistor*.

This tiny device can amplify electric signals a hundred thousand times. It can do many things that vacuum tubes can do and many more besides. It is something entirely new, and works on entirely new principles.

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and takes so little power, it can be used in ways and places beyond reach of a vacuum tube.

Invented at the Bell Laboratories to amplify the voice in telephone service, the *Transistor* is opening new doors of opportunity in other fields.

The Bell System has licensed thirty-eight other companies to make and sell transistors under its patents. This is in accordance with our established policy of making our inventions available to others

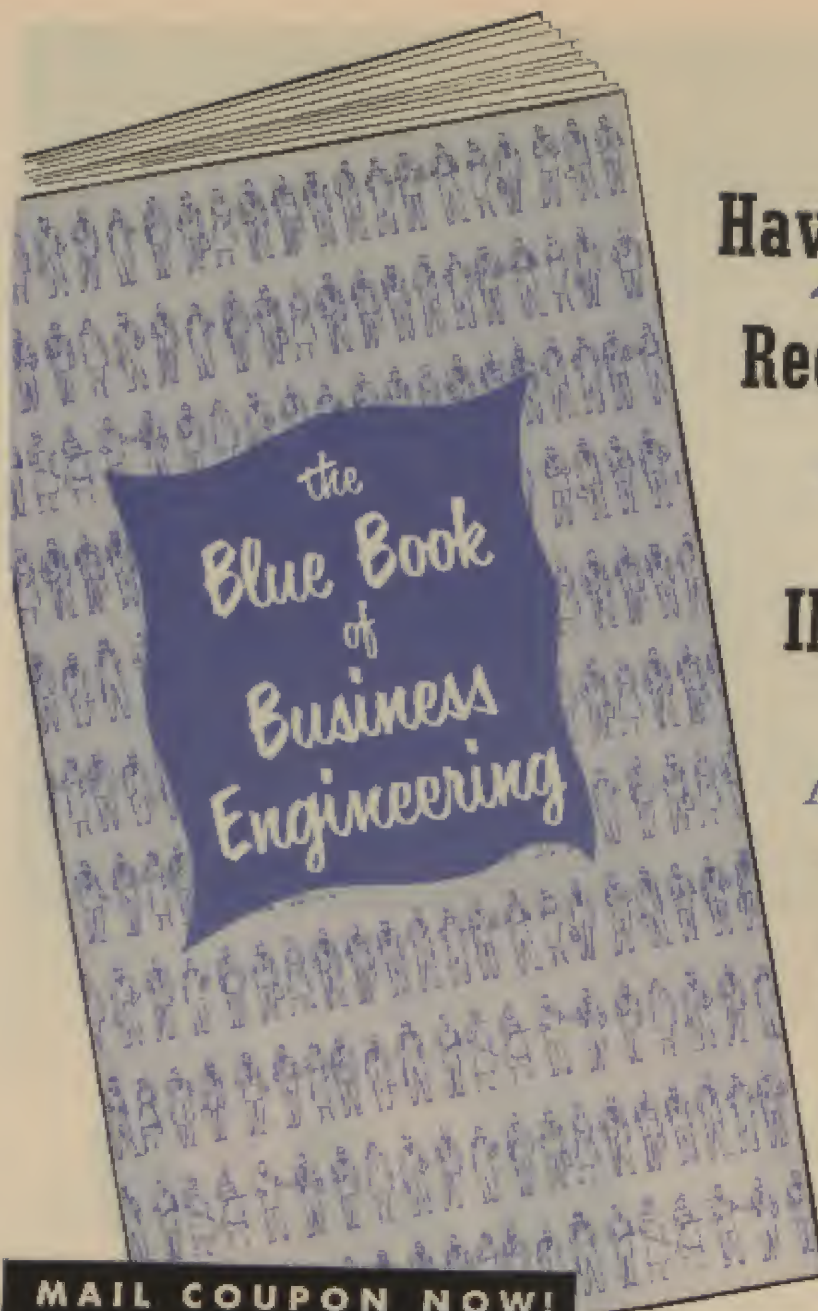
on reasonable terms. These include makers of advanced equipment for defense, as well as radios, television sets, hearing aids, and a wide range of electronic apparatus.

The *Transistor* is already being used in the new electronic equipment which enables telephone users to dial Long Distance calls from coast to coast.

It is another example of the value of Bell System research in bringing you more and better telephone service.

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ABOUT THIS ISSUE

"STACY and the Young Ones," was hatched during a short vacation in the Ozarks of south central Missouri. There the two authors, who write under the pen name **RULAND WALTNER**, met a young widow who had traded some good city property for a worthless farm without a house. They also met an Ozark fisherman who could say nothing without beginning: "On the one hand . . ." and finishing, "On the other. . . ." They mixed these two together, sprinkled well with imagination, and produced our fiction for this month.

Writing as Ruland Waltner, Vera, left, and Erma Waltner, who are sisters, have produced stories for many magazines in this country and abroad.

Collaboration dates from pinafore days, when little Erma was inspired to a poetasterism about a "hound that ran around town," and smaller Vera sent a fictional hero into a night whose "moonlight stabbed him" and also whose "fragrance smote him like a stench."

These extremes in writing, they decided, "demanded balancing, and collaboration was the answer."

They picked the name "Ruland" because it was their mother's maiden name.

The Misses Waltner live in Kansas City.

WHEN a good reporter gets an assignment he looks for the best possible sources of information. For his article, "Point Four Corporations," here is what **TRIS COFFIN** did: He talked with experts in the Bureau of Internal Revenue, the State Department, consulted the Library of Congress, the Foreign Commerce Department of the Chamber of Commerce of the United States, and the Washington tax law firm of Miller and Chevalier, where attorney Numa L. Smith, Jr., gave much help.

The work of Mr. Coffin is already familiar to NATION'S BUSINESS readers.

In addition to magazine writing, he is a columnist and radio and television commentator, and he is writing his second book.

He comes from Indiana although he has been in Washington several years.



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ABOUT THIS COVER —

IN PLANNING the Federal City, Maj. Pierre L'Enfant surrounded the "Executive Palace" with a Presidential Park. But Thomas Jefferson didn't believe the President had need for so much acreage, so when he moved into the mansion years later he marked the boundaries for what now is Lafayette Park, subject of our cover painting by **FRED SIEBEL**.

Looking north across the White House, the picture (counterclockwise) shows:

1. The Treasury Annex. A dentist named Thomas S. Gunnell built the first house on this site in 1836. One morning he got a rush call from President Van Buren. Expecting a faulty molar, Dr. Gunnell grabbed his instruments and hustled across the street—only to be named postmaster of the District of Columbia. Afterwards the house was the home of Samuel D. Hubbard, President Fillmore's Postmaster General, later becoming military headquarters for the District.

2. Belasco Theater. Now owned by the Treasury, it serves partly as a USO, partly for Treasury storage. The building formerly was the Lafayette Square Opera House. Here stood the home of William H. Seward when, as Mr. Lincoln's Secretary of State, he negotiated the treaty with Russia for ownership of Alaska. Prior to Mr. Seward's occupancy the dwelling had housed the Washington Club, and before that a boarding house among whose occupants were John C. Calhoun, Henry Clay, and Roger B.

Taney, who was later Chief Justice.

3. The old Cosmos Club, now owned by the Government. These buildings include the homes of Benjamin Ogle Tayloe and Dolly Madison. Mark Hanna once lived in the Tayloe house and was often visited by President McKinley. Former occupants included Garret A. Hobart and James B. Cameron. Dolly Madison moved to the corner house after her husband's death.

4. Veterans Administration offices. The old Arlington Hotel stood here many years.

5. The Ashburton house. Now owned by the American Federation of Labor, which has offices here, the brownstone house was the home of Lord Ashburton, minister from England, when the treaty negotiated with Daniel Webster settled the Canadian boundary issue.

6. St. John's Episcopal Church. First to go up after the White House, it was opened in 1816. In 1820 the portico and steeple were added. A cannon from the War of 1812 was made into a bell, inscribed: Revere Boston 1822."

7. Hay-Adams House. Here were the homes of John Hay, Mr. Lincoln's private secretary, writer, and Secretary of State for Presidents McKinley and Theodore Roosevelt; and Henry Adams, historian and grandson of John Quincy Adams. The houses were torn down to make room for the hotel which bears their names.

8. The Chamber Building. The house where Daniel Webster lived while Secretary of State was torn

down in 1922 to make room for the new home of the Chamber of Commerce of the United States, including offices of *NATION'S BUSINESS*. The Webster house also was occupied by William W. Corcoran, when it was said to be "the most splendid town establishment in the country." Other occupants were Senators Calvin S. Brice of Ohio and Chauncey M. Depew of New York. Next door was a dwelling once occupied by John Slidell, senator from Louisiana who became a Confederate diplomat.

9. Decatur house. This home was built by Commodore Stephen Decatur, whose occupancy was short-lived. He finished it in 1819 and within a year was mortally wounded in a duel.

Also in the block are (10) the National Grange Building, (11) International Bank, (12) Brookings Institution, and (13) the Congress of Industrial Organizations, with offices of the United Steelworkers of America. The corner building (14) next to Pennsylvania Avenue formerly housed the Carnegie Endowment for International Peace. It now is government offices.

Other organizations with offices in the block include the Federal Services Finance Corporation, United States Conference of Mayors, Institute of Municipal Law Officers, Institute of Government Purchasing, National Trust for Historic Preservation, National Council for Historic Sites and Buildings, and International Federation of Agricultural Producers.

It is a wonder that Lafayette Park was not named for President Jackson, as some wished. His statue (A) went up first. It was dedicated in 1853 on the anniversary of the battle at New Orleans. The first equestrian statue cast in this country, Clark Mills made it from cannons captured by General Jackson at New Orleans. Four other cannons stand guard at the base of the statue.

The Lafayette statue (B) was finished in 1891. Though never officially named, the grounds had long been referred to as Lafayette Square, since 1824 when the Revolutionary hero visited Washington.

Another French general who assisted Washington in the Revolution was Comte Jean de Rochambeau (C), whose memorial was dedicated in 1902. General Von Steuben (D), depicted inspecting the maneuvers of 1776, was honored in 1910, as was Gen. Thaddeus Kosciuszko (E), portrayed holding plans of fortifications mapped by him at Saratoga in 1777.

MAKE

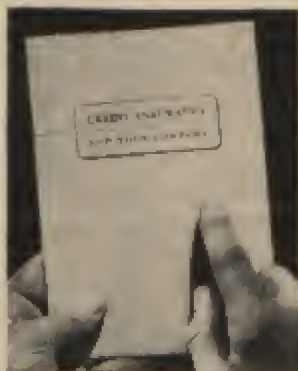
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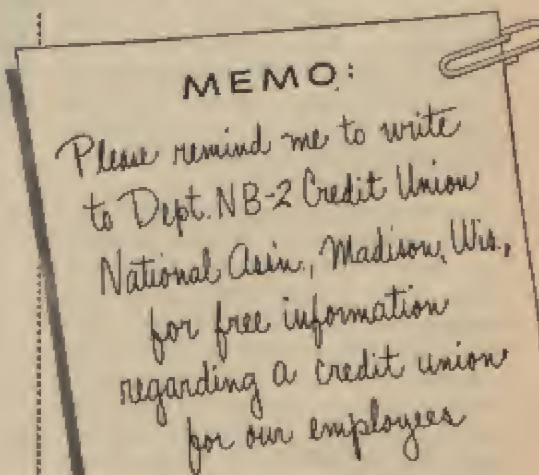
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► **LOOK UP**—to see business outlook.

First quarter was one of best in U. S. history, measured by gross national product.

There's enough momentum now—enough stuff in the works—to make '53 come out a good year—perhaps a little better than 1952.

As always, there are strong cross-currents in the economy. Example: Auto dealers worry while auto manufacturers feel fine.

Some economists who expected down-turn in last half now make it last quarter—or later.

► **THERE'S LOTS OF** room for private debt expansion in U. S. economy.

It's a strong—often overlooked—source of support for continued high level of business activity.

In 1939 private debt in the nation was \$125,500,000,000. National income was \$72,500,000,000. Debt was 75 per cent greater than income.

Today private debt total is estimated at slightly above \$292,000,000,000. Income has climbed up to match it.

Debt could climb to \$500,000,000,000 before approaching 1939's level, relative to income.

► **YOU WON'T KNOW** what will be in new emergency freeze law until late this month or next.

Sharp opposition from business side-tracked Senator Capehart's bill to restore wage, price policing systems and operating agencies on stand-by basis.

New law probably will be in form of price, wage, rent freeze to be applied by the President in case of emergency.

Purpose: To prevent upswings until Congress would have chance to fit war-time regulations to existing situation.

Subject's full of problems. Example: Freeze order also can freeze movement of vitally needed goods, materials, while their holders wait to see what new rules of business will be.

Another: Price freeze could stop flow of goods dependent on foreign materials—whose price would shoot upward in time of emergency.

► **WANTED: NEW NAME** for Taft-Hartley Act—by congressmen who will be running for re-election next year.

Widely shared stand: Taft-Hartley is good law; it's been poorly administered.

But many congressmen (the whole House runs next year) worry about "slave labor" tag hung on T-H by unions.

They'd settle for same law, new name.

Note: Senator Taft is unlikely to go along. He points to his own re-election in Ohio, minimizes union threat.

► **DOWNWARD PRESSURE** on prices grows—at every level, on nearly every line.

Its cause: Competition. That's increasing as nation's production grows.

Production so far this year has been approaching 1943 peak—and defense is taking only some 15 per cent of output.

Which means there's more in the market place than ever before—a condition that sets the stage for price competition.

These figures may show a trend line—

From 1950 to '51 personal consumption expenditures increased by \$14,000,000,000. Real volume was unchanged. Higher prices accounted for the rise.

In '52 personal consumption expenditures totaled \$216,000,000,000—a rise of \$8,000,000,000. Only half this rise was accounted for in higher prices.

The other half represents larger flow of goods and services to consumers—despite rise in defense deliveries.

Continuation of same trend indicates rising production, changing direction of prices.

On the business-supporting side: Disposable personal income rate early this year was at its highest level in history—measured in same dollars used to measure production.

► **UNFILLED ORDERS**—an accepted business barometer—may be misleading.

Currently orders for durable goods are equal to six months' sales.

Compares with average of three months' sales in '48; two months' sales just before Korea.

Let's look at what's back of apparently strong market at present: Long-term contracts for military aircraft, for one thing.

These and other military goods give market distorted appearance of extraordinary strength.

► **YOU'RE SEEING** the start—not the end—of dairymen's production problems. The

Government will acquire up to 500,-000,000 pounds of butter by fall under price-propping policy.

Secretary of Agriculture Benson set dairy products support level at 90 per cent of parity. Law gives him range of 75 to 90.

Benson's reasoning: Price support on feeds dairymen must buy is fixed by law at 90 per cent. So it would be unfair to set dairy props lower than that.

But here's point to watch: Vast government buying of dairy products could bring consumer reaction that would upset whole program of farm price supports.

Here's situation dairymen face—

Dairy herds increased 3½ per cent during 1952—while market for their product decreased.

Heifers one to two years old—they'll come into milking next year—increased by 4 per cent in '52.

Heifers under one year—they'll be milkers in '55—rose by 6 per cent.

At the same time, consumption of butter, other dairy products, dropped.

U. S. butter consumption was 18.2 pounds per capita in 1934.

In 1939 it was 17.3. In '41, 16. Last year it was 8.8 pounds per person.

If present trend continues—and there's little reason to doubt it will—butter consumption will sink to six pounds within next few years.

In 1941 total consumption of milk and its products was 824 pounds per person. Last year it was slightly more than 700.

Is milk less popular? No. It's in tight price competition with vegetable fats. Colored margarine hurts butter seriously.

Vegetable oils and fats also cut into milk products sales to commercial ice cream markets.

► AUTO DEALERS' profits will slide—unless you're willing to pay more for your new car this spring.

You may do that, despite figures on the price ticket.

Dealers are loaded with trade-ins. Sale of them lags. So dealers don't want any more—unless they can take them in at prices attractive to used car buyers.

Used cars tie up profits of auto retailers—and absorb their cash when sales are slow.

Lower trade-in means you pay greater cash difference to get a new car.

But new car buyers turn away, too, if the deal doesn't look attractive.

If that attitude spreads this spring dealers will take a licking on used cars already in stock—and go back to discounting new car prices by handling trade-ins at a loss.

That's prewar way of doing business.

But "normal" procedures haven't applied for past 12 years—so they would be something new to many (if not most) auto dealers in business today.

Margin squeeze will be tight if cars move this year in volume scheduled by manufacturers. They are expanding schedules, despite dealers' worries.

Manufacturers' attitude: It's time to sell harder.

One way to do that is to take less profit per deal, make it up by closing more deals.

► REPAIR BILLS on family cars will swing upward sharply this year.

That's because there will be more repair work to be done.

Parts makers, distributors and service garages all stand to profit by coming boom in their business. Here's why—

Automobiles between 4 and 10 years old require most repair work. After 10 many are junked.

Service work per car dropped after World War II as new car production rose.

Now more than 10,000,000 postwar cars 4 years old are on the roads—and their number increases every day.

► CONSTRUCTION INDUSTRY seeks high interest rates on government-guaranteed home mortgage loans.

That's reversal of past practice of expanding markets through easier terms.

Now builders have this practical concern: If the interest rates are not high enough the loans won't be made.

There's competition for funds. Low interest rates on FHA, VA loans make them unattractive to lenders. So prospective home owners must qualify for straight loans—or not buy, in many localities.

What's wrong with that? Government guarantees circumvent state laws governing straight loans—which set limits that result in too-high down payments for many prospects.

Money for home building is there. Net assets of insurance companies, banks, savings and loan associations, pension

washington letter

funds, other lenders continue to grow.

Another important source: Repayments on mortgages pour in at a rate greater than \$11,000,000,000 annually.

► **ONE LIMITED ACCESS** highway in Detroit eliminated 10,000 dwelling units on its right of way—many practically slums.

In another city it would take more than 20,000 new homes to replace those below minimum standards.

These examples point up biggest market for construction industry today—rebuilding America's cities.

One municipal engineer puts it this way: "If we were to enforce fire, sanitary and minimum housing standards already on the books, the building boom would go on forever."

► **MUNICIPAL BONDS** are declining—because so many are being offered.

It's reflection of rising government expenditures on local level. Bonds finance sewers, roads, fire stations, schools, bridges, other projects.

A result of rising volume: Yield on municipal bonds has increased 50 per cent in past two years.

► **IDEOLOGICAL DIE-HARDS** give new administrators hard time.

New top layer brought in by Administration finds itself spread thinly over the hundreds of thousands of civil service-protected federal employees.

Staffs have been assembled over past 20 years of New Deal, Fair Deal administrations.

There's no doubt many are objective in their work, could do their jobs under any administration.

But others have been indoctrinated in their political ideology by past administration and it's stuck with them.

Difference in point of view crops up in many ways. One: Old-line careerist writes news release of new policy laid down by new top men.

Selection of words—consciously or not—makes announcement differ from intent of policy maker—who seeks to correct it. Result in press is confusion.

Similar result of difference in point of view comes up frequently on spending, government activities questions.

Example: Policy at the top is economy. But there are many reports of Commerce Department field employees, as well as in

Washington, "selling" the idea of expanding rather than contracting activities.

How did Republican Senator Capehart happen to sponsor controls law that would resurrect all Fair Deal price, wage policing systems, maintain their organizations?

Because he sought staff help in preparing his stand-by controls bill. Old-line Democrat-appointed staff members sought to maintain their jobs, their point of view on controls policy.

Did they try to "slip it through?" Or was it a case of simple difference in view of government's proper function?

Question makes little difference. Result is the same.

That's why congressmen talk of revising civil service protection law—to take stumbling blocks out of new Administration's way.

► **PUT IT ON** a single sheet of paper—typewritten, double spaced.

That's order of Treasury Secretary Humphrey to his advisers. It's giving him sharp, short, to-the-point reports, quick view of problems facing him.

And it's giving plenty of headaches to advisers accustomed to 10 pages instead of one to report intricacies of finance.

► **BRIEFS:** Rising rents may show that many people have had more space than they need—or are willing to pay for.

. . . Stockpile of 74 critical items now totals \$4,000,000,000 worth, on hand and on order. That's 75 per cent of target.

. . . American Airlines is looking for 650 new stewardesses this year, expects to interview 25,000 girls to find them. Last year's score: 20,000 interviewed, 530 hired. . . . This really worries CIO: For first time in 20 years no one in their organization can pick up phone, get almost immediate appointment to talk over their problems with top man in the White House. . . . There are more than 100 bills in Congress calling for increasing or extending social security benefits. . . . School lunch program was initiated in 1937 to distribute surplus farm commodities. During World War II schools in about 500 areas served such surplus. Now it's 2,300. . . . Does growing population mean prosperity?

China has had great population for many years.

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BY MY WAY



April

ALL I wish to say about April at this time is that it is one of the pleasantest-sounding months we have, but, being cautious by nature, I never expect it to be anywhere near as perfect as I expect it to be.

Signs of Spring

THE REAL forerunners of spring, anyhow, are not showers or even flowers; they are the peepers that sound off around sundown when they feel like it; they are the frogs that go boom and kerplunk in the wet meadows and marshes. Spring is also when some morning you go outdoors wondering if you haven't misjudged the world and the creatures great and small that inhabit the world—if, by and large, it isn't a better world than you thought it was.

Our movable pole

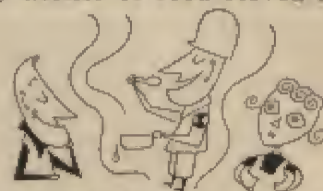
THE North Pole has been moving a little, the scientists say—first in one direction, then in another. I cannot understand the reasons why, even though they are carefully explained. But there is no need to be alarmed. The Pole is easy to find. You just keep going until you reach a point where every direction you look is south, and that is it. Or you can just take the man's word for it.

"Just like the Army"

ONE of the most remarkable small news items I have noticed this year, to date, was on the woman's page of a New York newspaper. A woman in the Bronx wrote in to ask for a recipe; since her marriage, she said, her husband had been asking her to "make a Yankee bean soup just like he used to have in the Army." And no doubt there is a veteran somewhere who would like to be waked by a bugle every morning half an hour before sunrise, but

I haven't heard about him as yet.

Anyhow, the Army ought to feel good about the situation. This is the first time in history, so far as I know, when anybody has liked any article of food served him in



an armed force, lumber camp, ship's galley, boardinghouse or institution of any kind, in preference to what he might get, or is getting, at home.

Left-handed banking

THE recent invention of the left-handed checkbook is a blessing for those intelligent, virtuous, noble, kind, true and hard-working citizens who cannot write with their right hands. We welcome it. Now let somebody invent an automatically refillable bank balance.

Grateful patients

ONE curious thing about the human race is how grateful it always feels toward a doctor who looks it over carefully from head to feet and can't find much or anything wrong with it. We are not half so grateful toward physicians who do find something wrong, even if they are eventually able to cure it. I know this by experience, for I don't suppose there is anybody in the Western Hemisphere who suffers more than I do from imaginary ailments.

An attack on poison ivy

SCIENTISTS at Columbia University have isolated the poison in poison ivy, separated it into four components and synthesized two of these components. When they have synthesized the other two, poison ivy will no longer be necessary and all that will be required

after that will be to persuade the poison ivy vine of that fact. As is the case with superfluous office holders, this will not be easy.

Some day, of course, we can be immunized against such poisons as this. That is what the investigators hope. And that is the way life goes. Science makes existence harder or more menacing by inventing the atomic weapon; it makes life easier and more hopeful by relieving our aches and itches.

What is charm?

I HAVE mentioned before the little old city hotel where we like to go into winter quarters. We will be leaving it, now that the weather is moderating and the call of the wild is clearly audible. I try to analyze its charm, but in vain. I sometimes wish it didn't take so long, on the tenth floor, to get some really hot water flowing. But I'd be worried if this and a few other items were as snappy and slick as they are at the Hotel Splendide. Maybe the charm wouldn't be present.

The same may be true of people—maybe they are more charming when they have a few disarming defects—but I won't go into that at this time. Or, perhaps, at any time.

Glamor for Johnny

I CAME upon the chief bellboy at our quiet little hotel the other morning. He is not a boy any



longer and his shoulders are stooped, but this morning he wore a bright smile. Why, I asked, was this? Well, he said, he had just carried two trunks out. I said I wouldn't feel extra cheerful if I had done that. I would just feel extra puffy. But these trunks—and his smile broadened and deepened—were the property of that pretty ballet dancer whose name we'd seen in the advertisements. In his respectful, heroine-worshipping way, Johnny had been close to glamor for a few minutes—and he still glowed. I understood why, though I wouldn't have carried even one small trunk for even a very tiny ballet dancer; I'd rather sit in an orchestra seat and watch the show.

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the passenger to push before he gets on and also more to push after he gets on.

When there are several actual or intending passengers, some wishing to go up, some wishing to go down, from or to several different floors, this elevator has a difficult time of it, first trying to remember what it has been told to do, second, trying to be fair. Once in a while a passenger gets on at the sixth floor with the intention of descending to the lobby floor and then finds himself ascending to the tenth floor to pick up some party—perhaps my wife and myself—who pressed a button a fraction of a second earlier.

The passengers get along nicely under these circumstances, because our hotel is occupied by amiable persons, but we are beginning to worry about the elevator's state of mind.

Whenever a machine gets as smart as that it is undoubtedly under considerable tension. I have a habit of pressing all the buttons once in a while as I get in. My wife says I must stop doing this or the elevator will have a nervous breakdown and have to go to a sanitarium in the country. Well, if machines will be human this is the chance they take.

City smells and signs

I TOOK a long city walk, away from the streets where people play and along the streets where they



work. How good the smell of fresh fruit is, how appetizing that of roasting coffee, and how interesting almost all the smells, good and bad, around any dock! I saw some horses, too, (those four-legged things that whinny) and decided that the show was well worth the small amount of energy I spent for my ticket of admission.

By rail to the 'moon'

A SAD lot of railway mileage is being abandoned these days, but some new miles are being built. By 1955, so a correspondent of the New York *Herald Tribune* reports, a tourist will be able to go by rail from Mombasa across Kenya and Uganda and along the borders of the Belgian Congo to the Mountains of the Moon. These are not

actually on the moon, though they are strange enough to be. Sometimes they are called the Ruwenzori, and they are full of scenery and perhaps of minerals. The news cheers me up. I can hardly wait for 1955 to arrive.

The busy signal

A WOMAN of my acquaintance says she knows telephones must sometimes be busy, but she is irritated by the signal that says so. Always eager to be of use to persons in distress, I have drawn up some suggestions which the telephone company may have for nothing if it will enclose a stamped, self-addressed envelope. We might make the signals more tuneful, so that they will be pleasanter to listen to than the conversation we might otherwise be hearing; or people who call on busy lines might be switched to some other line providing late news bulletins; or there might be special operators to whom we could chat about the weather, neighborhood gossip or whatever interested us. The danger might be that busy lines would become so popular that nobody would ever like to have a call go through. Is this clear? (It isn't quite clear to me.) Or does it matter?

Next stop Arizona

WE THINK, my wife and I, we will go to Arizona for our early spring vacation this year. This is not because we have never been there, because we have; nor is it because we have been everywhere else—we haven't. It is because we think we will go to Arizona this year. There will be more of this later, for we always plan a long time ahead. And I want to have some soft sand traps laid out on the western ranges,



where a man's a man and the horizon lures one on and on (or maybe off and off), so that if I fall off a horse I can fall into one of them.

Speed isn't everything

A MAN flying a jet plane faster than the speed of sound can't complain of his next door neighbor's radio—he can outrun it. On the other hand, he may catch up with something worse, such as a tone-deaf man with a tin throat whistling in an elevator.

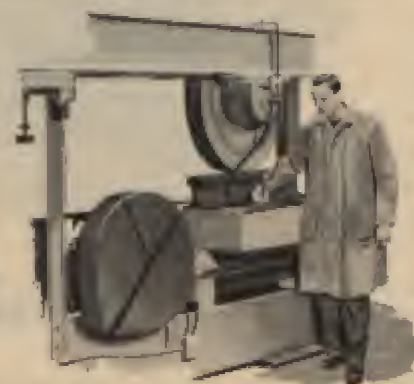
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OF NATION'S BUSINESS Trends



BY FELIX MORLEY

THE STATE OF THE NATION

MOST people who gain distinction do so by actively seeking the approval of contemporary opinion. The rule holds true in almost every walk of life.

Thus politicians rise by cultivating the good will of their constituents. Merchants reduce their inventories by advertisement. Publishers sedulously promote their wares. Actors and athletes court publicity. And the success of the preacher is usually measured by the size of the congregation that can be expected to attend next Sunday.

In many lines, however, men and women have not infrequently achieved lasting fame without intentionally competing for it. They are immortal, yet did not bother about the market place. In all such cases, it would seem, enduring popularity is due not so much to talent as to grace of character. In time people respond more deeply to this virtue than they do to the glamor and magnetism of names in neon lights.

• • •

A case in point is Henry David Thoreau, the New England writer who died nearly a century ago and whose relatively short life was cast in the period of mental and moral confusion preceding the Civil War. At a time when the fate of the entire world is as uncertain as that of this Republic was then, the libraries report that many people are going back to Thoreau. And the Voice of

America, if it wants to transmit authentic American thought, could do much worse than broadcast passages from the recluse of Walden Pond.

Thoreau's writings, in the words of Brooks Atkinson, "have helped thousands of his kinsmen to make their lives more rich and honest and able." It could scarcely be otherwise, because Thoreau's deep love of nature makes him akin to every member of a garden club and every fisherman and bird enthusiast. Their names are legion. And there are few so poor that they cannot beneficially share the wealth that was rooted in the honesty of Thoreau's character, and which he is willing to share with all who seek him out.

When Thoreau went to live at Walden Pond, "to transact some private business with the fewest obstacles," he definitely turned his back on both the attractions and distractions of the market place. But he did so without misanthropy and with no desire to be a hermit, cut off from his fellow men. Only, as he says, "in the woods fewer came to see me on trivial business. In this respect my company was winnowed by my mere distance from town."

His visitors, Thoreau recalls, were most numerous "about the first of April, when everybody is on the move." And April, more than 100 years after Thoreau left Walden, is still the best time to call on him there. That holds regardless of whether the philosopher-naturalist is an old friend, or whether one is for the first time making his acquaintance. In either case, however, you must yourself visit Thoreau. For he is not a go-getter and will never impose his company on

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anyone. Early April, in the Concord latitude, marks the definite end of winter. In 1853, Thoreau noted, Walden Pond was on March 23 for the first time completely free from ice. That was earlier than usual and one wonders how it is at Walden today. Anyway, with April, spring comes quickly to Walden "like the creating of Cosmos out of chaos and the realization of the Golden Age." Then, as "a single gentle rain makes the grass many shades greener, so our prospects brighten on the influx of better thoughts. . . . In a pleasant spring morning all men's sins are forgiven," and "through our own recovered innocence we discover the innocence of our neighbors."



The Williamsburg Foundation, according to its latest report, has now spent upwards of \$30,000,000 in restoring the colonial capital of Virginia to its prerevolutionary appearance. There is no movement to turn the clock back at Walden Pond, which has changed greatly and not for the better since Thoreau lived there. But the magical power of his writing is such that for the price of the book the reader can mentally reconstruct old Walden almost as effectively as old Williamsburg has been revived in substance. Yet the manuscript of Walden remained unpublished for seven years after it was completed.

There is no evidence that the delay disturbed Thoreau. As there is a point beyond which nature cannot be hurried, so it was with him, the nature-lover. Simplicity was his watchword and his advice to his fellow Americans was to saunter, rather than to race, through life.

The verb "to saunter," Thoreau asserts in his essay on the forgotten art of walking, has a notable derivation. It traces to the pilgrims of the Middle Ages who with staff and wallet set out to walk to Palestine—*à la Sainte Terre*, to the Holy Land. Familiar figures, in that age of faith, they were dubbed Sainte Terrers, or Holy Landers. In English Sainte Terrers slipped easily over into saunterers, with the suggestion of wanderers with no fixed destination or objective. Actually, says Thoreau, the saunterer "is no more vagrant than the meandering river, which is all the while sedulously seeking the shortest course to the sea."

In all of Thoreau's writings we find this plea for contemplative as opposed to nervous action. Man cannot successfully divorce himself from nature and it is when he tries to do so that his troubles multiply. Like the mythical giant, Antaeus, we draw our strength from contact with Mother Earth. Hercules finally slew Antaeus by lifting him bodily from the ground.

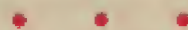
We, too, shall succumb to a more primitive people, Thoreau predicted, if we build a civili-

zation in which men are spiritually separated from the soil.

Thoreau, a century ago, was somewhat dubious about the American future. "We are concerned," he said, "about the outmost defenses only of freedom." Above everything he feared the ceaseless encroachment of paternalistic government and the pyramiding of crushing taxes to support it. In his essay on Civil Disobedience, which is one of the great American contributions to political thought, Thoreau tells amusingly of the night he spent in Concord jail for refusing to pay the poll tax. "However," he concludes, "the Government does not concern me much. . . . If a man is thought-free, fancy-free, imagination-free . . . unwise rulers or reformers cannot fatally interrupt him."

Those freedoms—of thought, of fancy, and of imagination—are much closer to the essence of the word than the "freedom from want" and "freedom from fear" which Pres. Franklin D. Roosevelt characterized as "essential." We should realize, however, that Mr. Roosevelt actually meant protection rather than freedom. That is shown by the preposition he used. One is protected *from* some menace. One is free *for* some purpose. Freedom, properly speaking, can never be a negative condition. It must be positive, or it is not freedom.

Thoreau wanted freedom, not protection. Many of us are actually afraid of being alone in the dark, or even of being alone at all, but Thoreau liked it. To him night was as much a manifestation of nature as is day and every natural manifestation, from lashing thunderstorms to peaceful sunsets, he enjoyed. "I am free," he wrote, "because I can govern myself." It is that clean sense of self-reliance, of glorious independence from regimentation and regulation, that one misses in most of our contemporary political philosophy. Stalin is dead. But the centralized concentration of authority he symbolized is still enthroned, and not only behind the Iron Curtain.



The interruptions from government are now more continuous, and a great deal more strident, than in Thoreau's day. And that may be one reason why his writings, sometimes opinionated but always stimulating, are again strongly in demand. Certainly a host of amateur gardeners, this time of year, are risking aching backs and broken fingernails as conscious or unconscious disciples of Thoreau.

With rakes and trowels and seed to free his thoughts, the city dweller finds his Walden on such bits of earth as congested dwelling permits. To saunter from bed to sprouting bed, as Thoreau tells us, is to forget one's cares. Tranquility of spirit, thus renewed, can be Everyman's substitute for a pilgrimage to the Holy Land.

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BY EDWARD T. FOLLIARD

WASHINGTON MOOD

THE oratory that floods America in a political campaign may be good drama, but it is not always reliable history. It is the way of our orators, in the heat of battle, to damn the opposition much too vehemently and to make promises much too freely.

John Foster Dulles had something to say about this when he testified before a Senate committee after being nominated for Secretary of State. A Democratic senator had challenged him to explain a seeming contradiction—his praise of the Truman Administration's foreign policy at one time and his criticism of it later in the 1952 campaign. Mr. Dulles said that rival political orators were like "two lawyers who represent opposing people in court." The lawyer's job, he said, was to present his own case, not the other fellow's.

"I admit," Mr. Dulles said, "that in the campaign words are used that are somewhat more extravagant than those used in a period of judicial contemplation."

In this radiant spring of 1953, Washington sees the new "ins" in a much more sober and judicial frame of mind than they were last autumn. They have now come to grips with things as they are and not as they seemed to be in the uproar of the campaign. They realize now, if they didn't before, that the chief cause of our troubles is not the Democrats but the Russians. They also realize that there may have to be a long delay between promise and performance.

One thing that strikes a Washington observer at this stage is the difference in attitude between President Eisenhower and many Republicans in Congress. He seems much more eager than they to forget politics, to face up to the facts of life, and to get on with the job at hand. Admittedly, this is easier for him than for the legislators. Many of these professional politicians had been flailing the Democrats for the better part of 20 years, and had developed a habit hard to break. Moreover, they are not as used to leadership and responsibility as the man in the White House.

The last time we had a transition from the extravagance of campaign oratory to harsh reality was in 1933, when Franklin D. Roosevelt brought his New Deal to town. What happened

then seems curious now, in fact almost incredible. In the 1932 campaign, the Democrats had denounced the Hoover Administration for not balancing the budget. They promised in their platform to reduce government expenses by 25 per cent. Mr. Roosevelt actually started out to make good on that promise, but then reversed himself and went in for a program of spending.

Nothing like that is in prospect now. The Eisenhower Administration is making a valiant attempt to cut down the cost of government, and indications are that it will continue to do so. What is new about the Washington picture, and also refreshing, is the frank acknowledgement that the job is going to be a tough one, and maybe one that will take a long time to accomplish.

The precise moment when the awakening began came at a so-called "briefing" at the White House. President Eisenhower called in leaders of Congress so that they could be told the facts of the world situation. Those who did most of the talking were Gen. Omar N. Bradley, chairman of the joint chiefs of staff; Allen W. Dulles, director of the Central Intelligence Agency, and Joseph M. Dodge, director of the budget.

General Bradley, of course, talked about Korea and about our military dispositions in other parts of the world. Mr. Dulles gave the legislators the low-down on Russia's military might and what our intelligence people have been able to gather about her probable intentions in the field of strategy. Mr. Dodge translated all of this in terms of the burden on America's taxpayers.

• • •

After the briefing, the congressional leaders walked through the White House lobby, where reporters were waiting to question them. The newsmen knew better than to ask them about anything specific, anything that might come under the head of secrecy. So they asked this question: How did the situation look in general?

"Grim," said one of the lawmakers, and went on to add that we were in "one helluva fix."

There was nothing particularly new in the world situation, no new crisis or alarming development. What was grim was the budget picture. The legislative leaders had been made to realize that, thanks to the Russians, it would be extremely dangerous to use a meat ax on

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Trends

the budget in such a way as to weaken our armed strength.

Not long thereafter, Budget Director Dodge was telling an appropriations committee bluntly that it was going to be difficult to cut the Truman budget by \$10,000,000,000, and thus pave the way for tax reduction.

President Eisenhower was asked about this at a press conference. Did he agree with Mr. Dodge? He said he certainly did. He even went further than Mr. Dodge, and said it would be terrifically difficult. Then the Chief Executive made a surprising remark. If it were not difficult, he said, the budget would have been balanced long ago, because nobody, he hoped, wanted an unbalanced budget.

Was he saying that his predecessor, Harry S. Truman, wanted a balanced budget? And if that was what he was saying, what then of the Republican cry in the campaign that Mr. Truman was guilty of deliberately inflating the budget and loading it down with waste and fat?

Whatever may have been in President Eisenhower's mind, he gave the impression that he would prefer to look forward rather than backward. The impression was bolstered by another of his remarks, this one about foreign policy.

A reporter, having in mind a controversy on Capitol Hill, asked President Eisenhower if he thought Mr. Roosevelt and Mr. Truman could have foreseen that Russia was going to go back on her word and violate her World War II agreements.

His answer was that he had no interest in going back and raking over the ashes of the dead past.

In the '52 campaign, the Republicans made a most effective attack on the Democrats for their handling of foreign affairs, dating from World War II to Korea. They accused Mr. Roosevelt and Mr. Truman of fumbling and bungling, of appeasing the Russians and of frittering away the hard-won victory of 1945. They hit particularly hard at "secret" agreements such as those at Tehran and Yalta.

It was a black record as the Republicans presented it, and most of us like things presented either in black or white. The historian, writing about these things 100 years from now, probably will see them in a sort of grayish hue, just as they are viewed now by many well posted men in the Department of State and in the Pentagon.

The historian, being obliged to steer clear of partisanship, will ask himself this question: Why did Mr. Roosevelt make concessions to the Russians at Tehran and Yalta?

A partial answer would be found in testimony given to committees of Congress by such men as

Charles E. (Chip) Bohlen, our new ambassador to Russia, and Sumner Welles, who was under-secretary of state in World War II.

Mr. Bohlen, a State Department career man, acted as interpreter at Tehran and Yalta, and therefore was entirely familiar with FDR's reasons for agreeing to let the Russians have the Kurile Islands and ports in China.

He recently reminded the Senate Foreign Relations Committee that at the time of Yalta it was assumed that our forces would have to storm the beaches of Japan to end the war in the Pacific, this being before the development of the atomic bomb. He recalled that Mr. Roosevelt felt that if Russia could be brought into the war against Japan, it would save anywhere from 200,000 to 300,000 American lives. He said that no President could be unresponsive to an argument like that.

Sumner Welles told a House committee some time ago about another factor behind the so-called "appeasement" of Russia. He pointed out that America's political leaders lived in continual fear that the treacherous Russians might make a separate peace with the Nazis.

• • •

The historian would certainly have to take these factors into consideration.

Getting back to President Eisenhower, his biggest worry—as it was Mr. Truman's biggest worry—is the Korean war.

He never did say in the campaign that he would end that war, only that he would try to end it. However, millions of Americans assumed that he could end it, and are now waiting for him to deliver.

The more one looks at the alternatives in Korea, the more difficult they appear. You are told at the Pentagon, for example, that if the Eighth Army is to launch an offensive, it will first have to be greatly reinforced.

But suppose there was a big push, and the Communists were driven all the way back to the Yalu River, which divides Korea and Manchuria. Would that end the war? General Bradley says he doesn't think so. He points out that the Yalu freezes over in the wintertime, and therefore is not an obstacle.

The roots of the Korean problem, as has so often been said, are in Moscow. Stalin gave the order for the start of hostilities, evidently never dreaming that America would intervene. Presumably, his successor, Malenkov, could now give the order to end hostilities.

Somehow the United States and its allies have got to make the Korean war unprofitable from the Russian standpoint. The one concrete idea our government seems to have in this connection is to man the battle line altogether with South Korean troops. Then we, like the Russians, would be fighting a war by proxy.



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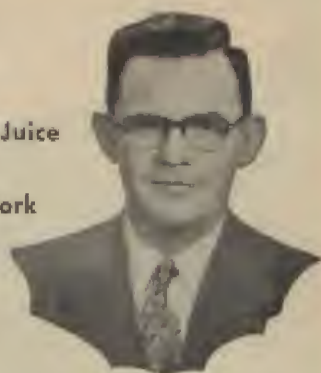
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HOME IS WHERE THE PLANT IS

By **WILLIAM F. McDERMOTT**



*It's a wise company that encourages
a strong tie-up with community life.
Results are progress, a better town
and more stable labor relations*

ONE OF the biggest annual events in Evansville, Ind., is the day when factories are thrown open for school children's inspection. Last year it was a record breaker, what with 1,000 teachers and pupil delegations making the tours—and ten-year-old, redheaded Dick Thomas getting “lost.”

A fifth grader at Henry Reis School, Dick had become interested in mechanized cotton farming through stories and pictures in his geography. At the International Harvester Company's works, he spotted a cotton picker drum assembly being manufactured; it fascinated him so that he forgot his group until it was out of sight. A foreman “rescued” him and got him back on the trail.

A few days later Dick wrote to the company. “I can show you how to improve your cotton picker. Here's my design.” The drawing showed engineering possibilities. His idea was to use a suction device, which he called an “automatic air picker,” instead of steel spindles with barbs, to extract the cotton from the bolls.

The lad received promptly an invitation from the company for him and the school principal, L. A. Page, to “come over and see us.” H. P. Gronke, department superintendent, welcomed the two and

showed them the details of the cotton picking machine; he explained it was the product of many years of experimentation, in which the suction principle had been found impractical. But he commended Dick for his creativeness and energy.

“Your design shows you have unusually ambitious ideas for a boy so young,” Mr. Gronke told him. “Keep on with your thinking and planning, and you'll be a successful inventor some day.”

Principal and pupil were guests of honor at the executives' luncheon, and when the youngster went back to his classroom, he took along a miniature tractor crawler, tiny models of the cotton picker for his schoolmates, and other souvenirs of his visit. Evansville newspapers gave the boy and his idea a play. Dick became one of Evansville's junior VIP's.

Recognition of youth is an important part of the community relations plan which International Harvester sponsors at its 23 manufacturing plants in 17 states.

The company sees both citizens and customers in the three or four million new arrivals yearly on the American scene and feels that anything it can do for them as they grow up is both good sense and good business. It contributes yearly through its



Behind Harvester's community program are men like E. W. Pengelly, left, of the Evansville Works and Henry Gonner, local Chamber of Commerce manager



branch plants to local budgets of Boy and Girl Scouts, 4-H Clubs, Future Farmers of America, Junior Achievement Clubs and others.

The company encourages personnel to get into youth work.

It also encourages them to get into public affairs, welfare, church and social activities—with just as much zest as if they were tied in with a concern born, bred and grown to full stature in the old home town.

Harvester executives conceive the public relations program, first, as a meeting of responsibility second, as an aid in getting and keeping the right kind of manpower, third, as an aid in getting the cooperation of the people of the city, fourth, as a part of the general idea of selling free enterprise to the citizens.

To demonstrate how this works out, Evansville is as good an example as any. The company gives its vigorous community relations program substantial credit for the success of its refrigerator plant in showing greater personnel and production records than maximum plans had anticipated.

When J. H. Elliott of the refrigeration department—refrigerators and freezers are the main products of the works—who is one of the Boy Scout directors, broached the need for a city-wide campaign to enroll more Scout troops, Harvester general offices agreed to underwrite the campaign as a civic project. It staged a courtesy dinner for 200 representatives of churches, schools, lodges, police and fire departments, fraternal organizations, Salvation Army, and other possible sponsors of new groups.

Charles D. Harris, division manager, and Paul F. Schreiber, works manager—the former a director of the Evansville Chamber of Commerce—sponsored training classes in the plant for campaigners; they encouraged their own employees to get into the thick of it, pledging their personal participation. Among volunteers from the plant going out nightly to make speeches, hold training classes and give counsel, were an electrician, an inspector, a machine repairman, a production worker, several office clerks and executives, and a salvage department employee. They covered the surrounding territory up to 40 miles away, selling the idea and following through until units were organized and in operation. As a result 31 new Boy Scout troops were established, and a number of Harvester people enrolled as permanent unpaid workers with Scouts.

You have heard of bloody battles, but did you ever hear of a "blood race"? One occurred in Evansville last year with noteworthy results. Giving of blood to the Red Cross was presented as a matter of good sportsmanship as well as patriotism. Industries and employes joined in the rivalry to see who could give "the mostest the fastest."

The Red Cross sent a bloodmobile unit from Indianapolis to Evansville as an ordinary assignment, but got an extraordinary surprise. It found the city keyed up, with something like a pennant-winning spirit in the air. In an earlier drive for blood the Harvester works had set a mark of 205 pints donated in one day. Now the big spring drive of 1962 was on, and rivals were out for blood—to give it in excess—and they had a mark to shoot at.

The pace was fast, particularly in the refrigerator industry sector. Another concern took the lead, only to be beaten by a third. Harvester won in the final round. During the Red Cross stay of four days, the branch plant turned in 1,157 pints of blood, and set some U. S. Red Cross records. It contributed



PHOTOS BY ARCHIE LIEBERMAN—BLACK STAR

It's a big day when the factories are thrown open for school kids' inspection

more to a bloodmobile unit than any other industrial firm for a similar period, and it set a one-day peak of donating blood at the rate of $47\frac{1}{2}$ pints per hour for six hours. It was an exhausting but triumphant siege for the five Red Cross nurses, who agreed when it was over: "It was grand—but surely tough!"

An interesting sidelight is that the Red Cross blood-giving emphasis resulted in all employees being called for blood samples for testing as to type and Rh factor. This information, stamped on each identification card, may prove to be a life-saving factor to some in case of future accident or sudden illness; if they should need a blood transfusion in a hurry—often minutes mean the difference between life and death—information as to the type they require is instantly available.

The same holds true if they should need to give quickly to others.

I got a glimpse of the International Harvester's attitude that as soon as a branch works is located in a community it should "go native"—even traveling the second mile to become fully a part of regional life—from an ex-farm boy, now a man of massive frame and genial smile, who has ability and understanding to match his stature. He is Harvester president John L. McCaffrey, who started in 1909 as a warehouse clerk in its Cincinnati sales branch, and who rose to its presidency in 1946.

"A wise farmer not only takes from the soil, but gives back to it, thereby keeping his farm fertile, productive and profitable," he told me in the general offices in Chicago. "It is just as wise for any industry to give back generously to a community from which it obtains its labor, its fire and health protection and numerous other public benefits. This return means not only paying taxes, but also sharing in movements for community betterment and happiness.

"That is why we not only encourage our local works personnel to engage individually in various civic and welfare activities, but also the company gives financial and moral support. Each manager may contribute up to \$100 as he thinks best to a local enterprise or activity; larger amounts are passed

upon by a committee from the general offices, which meets weekly to consider appeals.

"We consider cooperation with organized groups in community service as both warranted from a business standpoint and well worth while. Personnel may be assigned to assist in such projects as Community Fund and Red Cross drives. The company is willing, in cities and towns where our works are located, to furnish a reasonable number of men to membership and fund-raising campaigns of worthy local agencies in which it is interested and to which it makes contributions. The works manager may occasionally assign an employee of specific talent or professional knowledge to assist in a civic project requiring such special knowledge. Most of our plants are able occasionally to lend equipment, such as trucks, motion picture projectors, films, public address systems or other items to help out civic or welfare projects."

Harvester policy is to aid general programs, such as Community Chest and Red Cross, with annual contributions, and to make capital gifts for institutional development or expansion, such as hospitals and colleges, Y.M.C.A. and Y.W.C.A. buildings, boys club projects, and the like. Last year it made capital gifts ranging from \$5,000 to \$100,000 for improvement of major welfare and educational enterprises serving communities where its branch works are located.

The company attunes itself to the needs of a community. In Evansville, for instance, it gave \$25,000 toward the building of a hospital; \$10,000 toward a new building for Evansville College, and other amounts for endowment, as well as \$2,500 to buy industrial tools for laboratory use. It contributed \$6,000 to a campaign to sell the community on free enterprise, and to acquaint local high school and college graduates with good job opportunities right at their door—the aim being to hold Evansville youth to the home community. It also gives yearly to the Evansville Tax Research Bureau to watchdog the tax situation and to keep the public informed of tax conditions and dangers.

It gives to Community Chests, but not to current budgets of organizations (Continued on page 62)

ROOKIE METALS MAKE GOOD

By **LEONARD A. PARIS**

New and old ores with tantalizing names
now get star billing in industrial research



Germanium is used in tiny radios



Ships in the future may be made of titanium. This light metal would permit greater cargo pay loads and would not need the usual periodic painting



NOT long ago a group of German metallurgists made a trip to Columbus, Ohio, to visit the labs and workshops of a large industrial research organization where they saw quantities of titanium, molybdenum, zirconium and other metals lying around in various stages of processing.

"Ach himmel!" one of them remarked. "Ve haf valked into Ali Baba's cave!"

He might well have thought so. For while these metals with the mouth-filling names are neither so rare nor so costly as rubies and emeralds, their importance to industry justifies the term "precious" metals.

All of them are capable of doing special jobs that the better-known metals cannot do. Yet none of them is actually a new discovery. They've all been known about for years. Molybdenum, for instance, was discovered in 1781; zirconium a few years later.

But nationwide research has given these metals star billing. They will not replace the old favorites such as steel, aluminum, and



Molybdenum, discovered in 1781, may help push air speeds higher

copper, but they'll steal a scene now and then.

Science calls these materials the "uncommon" metals. There is a whole string of them, with names you may never have heard, such as cerium, germanium, molybdenum, selenium, silicon, titanium, and zirconium. But you'll be hearing more about them from now on. As one metallurgist remarked: "They sound like the cast of a Greek tragedy!"

There are others, too, including tantalum, tungsten, and even the atomically important uranium. But for the purposes of this article, we'll stick to the first seven named. They are truly "metals for tomorrow."

As research continues, these metals may come to provide us with ships that will never rust; lighter, faster trucks and buses; vest-pocket radios and calculating machines; lifesaving aids to surgery and medicine.

Only in the past ten years, however, have these metals become important. Many of them had been used as steel alloys; some had spe-

cific assignments. Molybdenum, for instance, was used to support lamp filaments. But no one had developed big tonnage uses for them. And they were seldom used as "pure" metals.

Even today science does not see big tonnage needs for most of these metals, even the plentiful ones. Silicon, for instance, is the most abundant element, next to oxygen, in the earth's crust. Common beach sand contains silicon combined with oxygen. If we could find a way to make ductile pure metal out of the sand, every beach would be a potential mine.

During the war silicon was used to rectify microwaves in radar. Today silicon rectifiers are used in low-price television sets. But even with the growing demands of the electronics industry, we shall probably never need as much silicon as we can get.

Some day, perhaps, the story may be different. Silicon is lighter than aluminum and highly resistant to acids and oxidation. If we could find a way to make it ductile—i.e., workable—it could become

an important structural material. So far all attempts have failed.

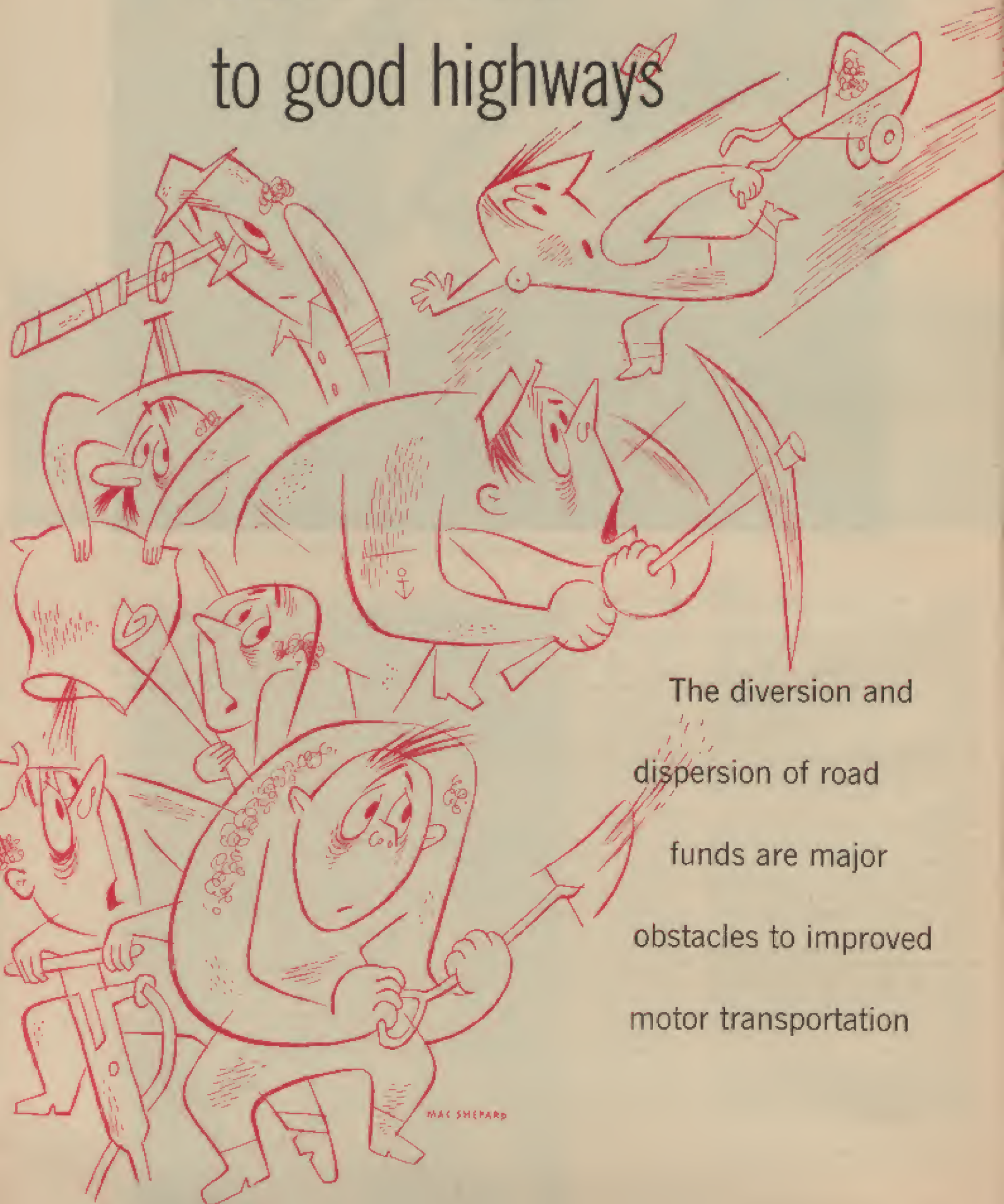
There are similar problems with most of these metals. "They're as temperamental as a beautiful woman," a scientist at Battelle Memorial Institute in Columbus, Ohio, told me. "You find out they've got some quality you want, and you work to develop it. But along the way you also discover some weakness you didn't know about. Before you can reach your goal you've got to pamper them, give them plenty of time and attention and put up with a lot of nonsense. And in the end they may walk out on you!"

Molybdenum is a case in point. It has a terrifically high melting point—around 4,750 degrees Fahrenheit. "Aha!" said the defense experts, pouncing on the metal for jet engines. But then they learned that "moly," at somewhere around 1,800 degrees, is subject to attack from the air and begins to disintegrate.

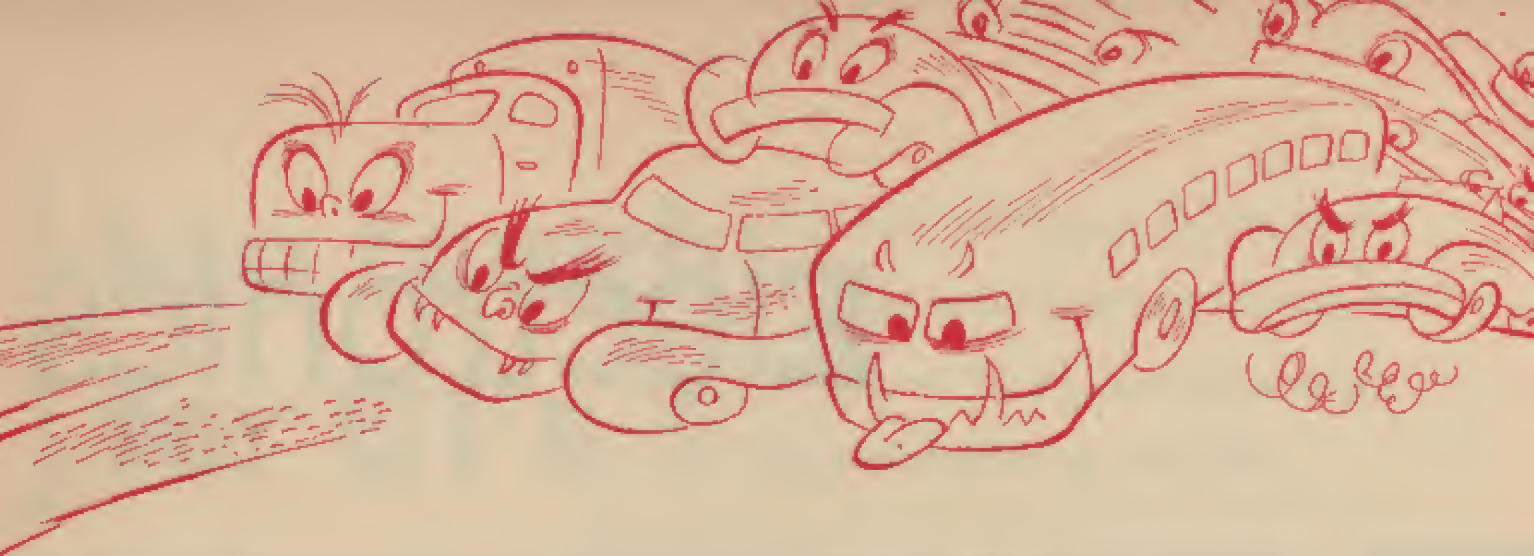
Scientists are still working on that problem, coddling "moly" with coatings of other metals or ma-

(Continued on page 81)

Road blocks to good highways



The diversion and
dispersion of road
funds are major
obstacles to improved
motor transportation



By WILLIAM J. SLOCUM

AMERICA'S roads, all 3,300,000 miles of them, over all are the best in the world; they are the basis of much of our prosperity and pleasure; they are in all ways a tribute to our pioneering courage, industrial know-how and financial strength. But—they are in a mess in many ways.

Road experts generally accept the theory that two thirds of our highways are inadequate in varying degrees. Being a road expert—a highway engineer—is the most precarious form of professional experting imaginable. Experts in other fields can come up with answers that are basically unprovable, yet always nice to hear.

The highway expert has nothing to say today that would be good news to the taxpayer and/or road user. He has no hip pocket panaceas. But he does have a painful list of wrong guesses that were not entirely his fault but, nevertheless, were wrong as he and the nation now know.

Before the war the experts agreed that by 1960 there would be 45,000,000 vehicles fighting for space on the roads. Last year, or eight full years before 1960, we had 53,360,000. And these unexpected millions were rolling over roads that in many places had been pounded to pieces during the war. Graver dangers practically eliminated construction and proper maintenance in the period 1941-45.

Postwar construction has been woefully inadequate and the work that has been accomplished has been crippled by dispersion. This is the scattering of road funds over large mileages of streets and roads without due regard for actual needs, as determined by engineering measurement.

But so precarious is our road problem that even this misapplication of funds is almost without sin. Every time a four-lane road is built in a two-lane region it tends to turn the region into a four-lane area. Good roads attract users and business. Thus, a so-called luxury road built in 1948 has a tendency to become a necessity by 1952.

The fate of California is a graphic illustration that an intelligent legislature, a generous budget, and disinterested experts can add up to near disaster when they find themselves competing with the fantastic growth of travel since World War II.

In 1946, the California legislature, like all legislatures, was being strangled by a road problem. Everybody agreed there must be improvement but nobody agreed where the improvement should be made. The tug and haul of state, county, and city interests fighting for what might be called the legitimate political grab was so intense that the legislators called in the Automotive Safety Foundation,

a nonprofit group, to survey, predict and recommend what needs were greatest and deserved immediate attention.

The state highway system, or the main arteries of intrastate transportation, obviously was the heart of the problem and the ASF made many suggestions about it and lesser roads. Our interest here will be confined only to the state system of about 14,000 miles. In 1946, the ASF found 7,879 miles deficient. It estimated the cost of modernization at \$1,459,000,000.

The sum was beyond even California's vast resources, but it did sink \$496,000,000 into roads from 1947 to 1952 with another \$106,000,000 budgeted for 1953. For reasons that will become only too obvious, California called back the ASF last summer for another survey. Despite an expenditure of \$602,000,000 from 1947 through 1953, California will have 12,067 miles of deficient highway when '53 is ended. The Golden State will have spent \$602,000,000 for the privilege of increasing its inadequate state roads 4,188 miles!

California is not at fault. The problem is typical and national. Last year the nation spent \$2,900,000,000 on construction and wound up with 5,000 more miles of inadequate road than it had before the money was spent. Some of the reasons for this are too obvious for extensive review. Inflation, labor costs and shortages, material shortages, population growths and shifts all played a part. But there are some less obvious reasons for the current road mess.

For instance: Cheap transportation is expensive. People find it cheaper to organize car pools and drive to work than to go by bus.

Two reasons bus travel is so expensive are that crowded roads eat up gas and oil and that drivers' wages are high.

The reason it takes buses so long to get where they are going is that many of their potential clientele are crowding the roads in private cars. Yet we need more buses! And we need more roads!

Let's look at the new roads we need. Should we build them or improve what we have? It's cheaper, generally, to break new ground. But the old roads are the best roads. They began as cattle trails, post roads, or bicycle paths and the old-timers were devoted to the ancient theory about a straight line's relationship to distance.

One more oddity about roads. To paraphrase Gertrude Stein, a road is not a road, it's an umbrella. The stuff your car rolls over is important, of course. But its main job is to keep the earth below it dry. If water gets under the (Continued on page 52)

Electronics



AS A whole, the armed forces of the United States are not now qualified to handle at top efficiency the advanced electronic equipment our scientists have given them. We are not training enough men in this complex science to operate and maintain what has been developed.

But what makes these statements so vital is that we are making still another mistake. To most Americans the average Russian is a bearded, bomb-throwing dullard whom our highly trained and well equipped troops could quickly knock out. That just is not so at this time. Russia has a huge armed force of highly skilled and trained men whose electronic equipment compares favorably with our own. It is true that their equipment may not be as technically perfect, nor

as expensive as ours, but it is designed for the intelligence level of her operating troops. They should get between 80 and 90 per cent maximum utility out of their electronic gear. Ours is unquestionably superior—but, combat officers tell me, too often we only get approximately 60 per cent of its potential value. This is caused by insufficient training, and equipment which is overly complex, especially from a maintenance standpoint.

Our readiness for an electronic war, even after two years of Korea, can only be described as half-and-half—we are half trained and half equipped.

Let us admit that soldiers cannot be made into proficient technicians in a two-year draft. But I am not recommending extension of the draft period.

Lt. Gen. Orval Cooke of the USAF points out that we do have tremendous national assets in the basic trainability of our men—if they can be held in service long enough—and in the potential output of our production lines.

"These," he says, "compensate for the fact that the so-called American inventive genius is not what we like to think it is. Who invented jet aircraft? Radar? The British. Who invented such things as the recoilless cannon? The Germans and the Swiss. But we are great borrowers and producers. Our strong points are in the quantitative field rather than the qualitative."

Admitting that in the past 20 years the world's greatest inventions have not been American and our forte is mass production, I also

too tough for GI's ?

Machines of modern warfare have become so complex that training men to operate them is a major problem

By **RICHARDS W. COTTON**

Chairman, Electronics Production Board



EDWARD BURKE

believe that we are improving our position qualitatively, both in industry and in the training of our troops in electronic warfare.

The hard core of modern electronic war is the vacuum tube, or "bottle" as the GI calls it. Military electronic gear requires a high degree of training not only to operate it, but also to service it either behind the lines, or in actual combat. For instance, normal attrition accounts for a daily loss of three tubes out of every 200 in normal rear echelon military bench use. The B-36 carries 2,700 tubes of all sorts, so you could expect 40 to blow every day. In each case the trouble must be diagnosed, located and repaired, while underway or even under fire.

Freeing the armed forces from the need to contract for civilian

electronic experts to perform necessary maintenance work will require far more than the two years a draftee is now required to serve. Industry and the armed forces, meeting on equal terms in the Electronics Production Board, agree that it takes not less than five years of intensive training to make an across-the-board electronics man out of a high school graduate with a good IQ.

After a draftee has finished his first nine weeks of basic training and finally has started on his "common block," or basic, electronics, he finds many other distractions which take him from the classroom. All these demands may be important in themselves, but, together, they mean that a draftee can only be trained on a single phase in the electronics field. On this single piece of gear he gives the service only an average of ten months usefulness out of his two-year hitch.

Of course there are solutions for these problems. Some are in industry, some in the armed forces—but most are—rightfully—in the laps of the American people. It's their survival and the survival of their sons which we are really discussing and it will be their responsibility to see that we take remedial action.

The meaning of all this might be made clearer by going back to an incident in World War II.

At that time, the gunnery officer on *H.M.S. Hood* was looking with vexation at the radar reading given by his new-fangled electronic fire-control system. It couldn't be right, he thought, so he took an optical reading, transmitted the data to the gun turrets, fired at the distant German battleship *Bismark*—and missed. In the next few seconds the *Bismark's* radar-directed salvo crashed inboard and the *Hood* was doomed.

Military electronics—of which radar is one of many—actually came into being in World War II, principally the brain child of Sir Robert Watson-Watt. The impact upon our world has been prodigious.

Because of electronics—and nuclear fission—we, as a nation, are in much the same position as the *Hood's* gunnery officer—in the next war there will be no time for a mistake.

Before the war Mr. Watson-Watt was trying to measure the exact distance between the earth and its encompassing ionosphere with a carefully timed transmitter-receiver. It seemed that every time he got his instruments set and began transmitting, a plane would roar overhead from a nearby airfield. Out of patience, the young scientist called up the Air Ministry and complained. The planes caused what he called "disturbing echoes."

"Echoes?" echoed the Air Ministry incredulously. "From planes in flight? Are you sure?" Watson-Watt was quite sure. "We'll be right around," said the Air Ministry.

That was the beginning of radar.

Ionospheric measurements were relegated to an assistant and the young scientist became a full-time "Top Secret Boffin," or top echelon "Back-Room Boy," working on the development of the devices which were the forerunners of those now torturing the minds of our young enlistees.

The Germans later developed a microwave radar and, until effective countermeasures were developed, they made life miserable for our bombers, patrol craft and raiders. The famous Dieppe raid, when so many British and Canadians died on what seemed a useless mission, actually was not just another raid. Our Intelligence knew that the Germans had something new in radar. If we were to learn how to jam it we had to get in to see it. The Dieppe raid was set up to take a certain stocky, medium-sized, ruddy Scotsman ashore and let him look-see. Actually, the raid was a success. But, for security reasons, we could not explain at that time.

I feel that I am somewhat qualified to comment briefly on the cur-



EDWARD BURKS

Electronics

continued

rent situation. I have been engaged in electrical engineering and electronics all my life; I believe I was the only American ever to serve as an official of the British Government—during the last war I was appointed controller of signals and equipment in the British Air Commission. Shortly after my return to this country, I was asked to become director of the electronics division of the National Production Authority and chairman of the Electronics Production Board, one of the arms of our defense mobilization effort. Having lived with electronics ever since it was wireless and having worked on its military application all through a war and a half, I must confess that I feel a considerable alarm over the immediacy of the problem of electronic-atomic total war.

Let us start with equipment.

Once a Brass Hat came back from a naval maneuver, a faraway look in his eyes. "If I only had a piece of equipment that would spot a snorkel at 100 miles without picking up waves or driftwood, we could lick the world." His dreamboat idea went in time to the research people. Smart and capable,

they are, however, not always practical. The researchers designed a monster which would do all that was asked of it and perhaps a bit more, but it was so complex that only the designers themselves could operate or maintain it.

Finally it got to the manufacturer who said it must be simplified for production. The simplifying procedure continued as the production engineers pointed out flaws. The design for a piece of electronics frequently comes from research including a type of vacuum tube that does not even exist, except as an equation on paper.

In making it, the manufacturer's engineers may find that 99 ohms perform better than the 100 ohms the specifications call for. The resulting paper chase may require weeks—even months.

And, always, before we get into full production we must solve two severe problems—complexity of design and contract formalities. I am reminded of a wartime example of what happens when, as an air vice marshal on General Eisenhower's staff said to me, "the Boffins forget that the ultimate product

must be suited to the mentality of the sergeant's mess."

In World War II, the United States obtained the sonar target depth determining device from the British. It contained something less than 30 vacuum tubes, took up little shipboard space, and needed one crewman. Since the war we have "improved" it. Our version has about 235 tubes, takes up half a room, and requires two more men just to keep it operational. Its increased efficiency is slight.

A good rule-of-thumb is that, for every man aboard a fighting ship you have to add eight tons displacement for such things as fuel, water, food, clothing and gear. On top of that is the new electronics equipment itself, the additional tubes and spares necessary for day-to-day maintenance.

The electronics industry, left free to use its own ingenuity, moved in the opposite direction. The typical television receiver of 1949 used 26 tubes. Today's typical set uses 21 tubes, gives better performance, has simplified controls, more reliability and easier maintenance.

A radar device of considerable complexity was installed in a ship whose identity isn't important here. Its captain brought the vessel into a navy yard and the electronic technical officer hurried aboard to check on performance. The captain was almost ecstatic. He pointed with pride to a steadily rotating scanner on his mast.

"Couldn't get along without it," he burred. "Marvelous thing." Elated by this praise, the ETO went below and found a young lieutenant with a couple of ET-3s (electronic technician, third class) pouring over a massive volume of circuits. The ETO asked how the equipment was operating. One technician carefully closed the door.

"That thing!" grated the lieutenant. "It hasn't worked for three days. I just kept the scanner rotating to please the old man. He sees it going around and around and thinks everything is dandy."

The ETO sent one of his Tech Reps, known as contract engineers, aboard and in a day he had it working properly. These contract engineers—averaging ten years' experience in maintaining all types of electronic gear—go to the armed services from the electronic industry to teach the officers and crew how to maintain and operate their own equipment. But in practice they often wind up doing the repair work themselves and rarely have time for instruction. When

I complained of this to one admiral he insisted that it was necessary because he "had to maintain constant battle readiness."

I pointed out that, in demanding battle readiness, he was losing his war readiness. There simply would not be enough men to do a full wartime job if enough enlisted men were not trained to meet the vastly increased demands of an all-out war.

When an Army hitch is likely to be two years, a Navy cruise is for three or four and an Air Force enlistment for four years. A draftee's service in any branch is for two years. The latter two services obviously have a much easier time licking the training problem if they obtain all the men they want.

Both the Air Force and the Navy are "very, very nice" to the boys the last few months of their terms of enlistment. If they can get a man to stay on for two enlistments they know that, at worst, they have a fully trained electronics man in the reservoir of the nation's reserve manpower. At best they have been able to show him that, after completing eight years, he is nearly half way to the 20-year retirement period—which means a basic retirement pay of more than \$50 a week and a completely learned trade at a probable age of only 38. He is then in a position to go into private business in a field which is now avid for stable and knowledgeable young men.

If we are forced into a war in Europe it is important to us that electronic gear supplied to our allies be kept operable. Where we are providing our allies with such equipment, it seems to me with the draftee's length of service in NATO countries being only 18 months, it is vital that we also provide the necessary electronic engineers to train allied personnel.

We have spent more than \$15,000,000,000 on military electronics since the war and are now up to a national annual expenditure of \$2,500,000,000 a year. This is very big business, as well as a vital part of our survival. It is reasonable to state that, if electronics alone can't win a war, no modern war can be won without it. It thus ceases to be a purely military problem. We cannot surrender our civilian control of well planned military progress. We must demand that it be properly managed and fully exploited.

The Germans standardized their manufacture for wartime on 16 types of vacuum tubes. On our JAN (Joint Army Navy) preferred
(Continued on page 75)



Research and development engineers should keep in mind that new military items must be such that they can be operated efficiently and maintained by GI's



POINT

4

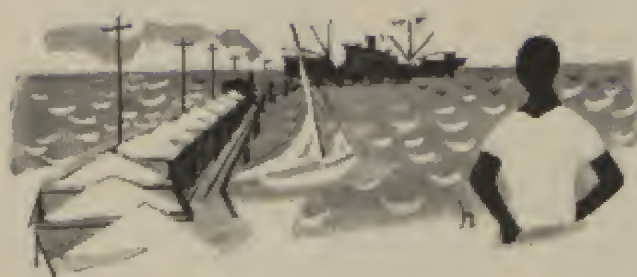
South American trade offers

real tax inducements to

companies that can qualify

under the law—but booby

traps await the unwary



By TRIS COFFIN

ONE HUNDRED and twenty-seven words slipped into a wartime tax bill at a shirt-sleeves session of the Senate Finance Committee may pry open the door for free American trade to flow around the world.

To many hard-headed, practical businessmen a wide exchange of goods from factories for raw materials from underdeveloped areas could bring a prosperity undreamed of since the galleys of ancient Rome sailed the Mediterranean.

Plows and sewing machines, refrigerators and motors are only a few of the items of American industry that could flow in greater numbers to Rangoon and Capetown and Cairo once the exchange is worked out on the scene by free enterprise. The demand for American manufactured goods is almost unlimited; the problem for American know-how and capital is to find efficient, profitable ways to extract the riches of the earth.

The risks of foreign business venture are so great, a friendly push on the back is needed to send our capital and brains across the oceans. This push might well be the following words which spell out a way to earn a tax cut:

"For the purposes of this chapter the term 'Western Hemisphere trade corporation' means a domestic corporation all of whose business is done in any country or countries in North, Central or South America, or in the West Indies, or in Newfoundland and which satisfies the following conditions:

"(a) If 95 per centum or more of the gross income of such domestic corporation for the three-year period immediately preceding the close of the taxable year (or for such part of such period during which the corporation was in existence) was derived from sources other than sources within the United States; and

"(b) If 90 per centum or more of its gross income for such period or such part thereof was derived from the active conduct of a trade or business."

These words are an invitation to a 14 per cent tax reduction plus exemption from the corporation auditor's nightmare, the excess profits tax. This form of help for trading should be spread to all foreign trade, according to August Maffry, the banker-economist and government adviser on the export market, and Ellsworth C. Alvord, member of the International Chamber of Commerce's tax committee.

The trail-blazing and hotly controversial Maffry report to the State and Commerce Departments recommends: "Undoubtedly, the most effective sin-

CORPORATIONS

gle means of stimulating additional private investments in foreign countries would be tax measures. . . . The extension to other areas of the partial tax exemption of the Western Hemisphere corporations has a great deal to recommend it. . . . The extension to what might appropriately be called 'Point IV Corporations,' together with the maximum possible allowance for foreign taxes paid, would undoubtedly constitute a considerable stimulus. . . . Something should be done, however, to confine the tax exemption to income from bona fide investments."

Mr. Alvord, a tax adviser to many large corporations, said: "The Western Hemisphere Trade Corporation law should be applicable to the entire world. This would be a small step forward in advancing our policy of international trade, of exporting American know-how and capital. There is nothing peculiar about Western Hemisphere trade operations that this tax advantage should be limited to it."

It is only fair to point out that the Bureau of Internal Revenue does not share this enthusiasm. It argued dourly in a report prepared for the Bogota Conference that tax incentives have little to do with foreign trade.

But the value of the 127 words in exporting American know-how and capital to Latin America is proven by hard facts. Since the WHTC law passed with no public drum beating in 1942, some 700 corporations have qualified. The first year the tax exemption was on the books 106 companies won the approval of the hard-boiled and skeptical revenue agents, and this number has steadily grown. The beneficiaries include such operators as General Motors, General Electric, Firestone, Sterling Drug, Sharp & Dohme, Cooper-Bessemer Corporation, Monsanto Chemical, Diamond Alkali and Dow Chemical.

One company alone was able to save \$500,000 in taxes for one year.

On paper, the qualifications are simple. All the corporation's business must be in the Western Hemisphere. For complex reasons Bermuda is excluded from this tax exemption. Ninety-five per cent of the corporation's gross income must come from outside the United States, and 90 per cent of the income must be derived from an active trade or business.

By test, the safest and surest way to pass the Treasury's rigid inspection is to set up a Latin American subsidiary.

Actually, the idea of organizing hundreds of

American subsidiaries especially to do business below the Rio Grande was far from the minds of the act's authors.

The real story is that the Senate Finance Committee was giving first aid to four venerable Latin American companies which had been incorporated in the United States.

They were the Argentine Telephone Company, Patino Enterprises, International Railways of Central America, and the Christop merchandising organization. They suddenly woke up to discover a bill for wartime taxes on their desks. (In 1942, surtax rates were shoved up from six per cent on the first \$25,000 and seven per cent on the remainder to ten per cent on the first \$25,000 and up. Too, the excess profits tax was added.)

Their lawyers pounded on doors in the State and Commerce Department and on Capitol Hill, pleading the new taxes would drive American corporations to the wall. Even in the middle of a war, European countries did not tax foreign profits until they were brought home. But, under United States policy, profits left abroad for use or paid to foreign stockholders still went on the tax form. The pleaders also argued shrewdly that without some tax exemption, American firms in Latin America would have to drop their U. S. incorporation, and the Treasury would be the loser.

The House Ways and Means Committee voted to exempt American corporations abroad from the excess profits tax, but stopped there. The WHTC law was born in the quiet, austere atmosphere of Washington's Metropolitan Club.

Colin F. Stam, knowledgeable chief of staff for the Joint Committee on Internal Revenue Taxation, Mitchell B. Carroll of the National Foreign Trade Council, and Frederick Livesay of the State Department talked over the tax dilemma at lunch.

Mr. Carroll suggested over coffee, "Why not exempt from the new tax increase all U. S. corporations with 95 per cent gross income outside this country, and 50 per cent of whose active trade is overseas?"

Mr. Stam replied skeptically, "I think that's too drastic for Congress."

For weeks, memoranda swapped back and forth among the agencies. The Export-Import Bank frowned on the idea. The tax sage of Capitol Hill, Sen. Walter George, chairman of the Senate Finance Committee, laid down the rule, "National policy and interests must be proven to win an exemption."

(Continued on page 88)



Dr. Ejnar Johansen, anesthetist at Doctor's Hospital in Washington, D. C., explains the work ahead



Premedication begins before the operation and lasts until the patient finally is assisted onto the table

Who's putting you under?

By JOHN KORD LAGEMANN

An operation, to most people, is something to be feared. It needn't be, if your anesthetist is up on the progress made in his special field

WHEN and if you need it, your next operation will be safer and your recovery faster because of a new kind of doctor-scientist who specializes in taking patients on guided tours of oblivion—and bringing them safely back.

During the 100-odd years since the first use of ether and nitrous oxide ushered in modern surgery, new drugs and new techniques multiplied rapidly. But knowledge of what these drugs did to the human organism and skill in administering them did not keep pace with discoveries. When "the operation was successful but the patient died," or suffered certain postoperative complications, the cause often could be traced to ignorance or inexperience of the nurses, interns or general practitioners who administered the simple anesthesia of the time.

During the past few years, anesthesia has been catching up fast. Today, under the resounding title of anesthesiology, it has become recognized as a major specialty re-

quiring the same high standards of intelligence, training and experience as surgery itself.

As a surgical patient, you need anesthesia for two big reasons—to make you unconscious of pain and to relax your muscles so that the surgeon can operate. Without it, here's the rub: All of the drugs which have the desirable effect of relaxing muscles and deadening pain are depressants which have undesirable effects.

Like all usual blessings, anesthesia has its price tag. The new specialist set out to drive a better bargain. His success was immediate and dramatic, but slow to be recognized.

Only a few years ago, for example, surgeons were reluctant to enter the chest cavity—for the good reason that the patient usually died.

The record of one of New York's largest hospitals is typical. During a three-year period a few years before World War II, only 11 chest operations were attempted. All

were fatal. Then the hospital invited one of the pioneers of anesthesiology to head its anesthesia department. During his first year he teamed up with surgeons who performed 16 chest operations. Every one of the patients lived. Today, thanks to the knowledge and skill of the anesthesiologist, working as a teammate of the surgeon, chest operations, even on the heart, have become commonplace.

Your contact with the anesthetist probably will begin the night before the operation when he visits your room, to make his own diagnosis and to determine the anesthetic best suited to your condition.

Since general anesthesia affects every part of your body he needs a thorough knowledge of how a body functions; since its greatest effect is on breathing and circulation, he needs a specialist's knowledge of heart and lungs. During the operation he's responsible for fluid therapy—the administration of blood and other fluids you may lose. By producing in you exactly the



A single needle will carry a drug and other fluids as needed

As a patient may see it: mask in the anesthetist's hand, surgeons, nurses ready



PHOTOGRAPHS BY EDWARD BURKS



Surgery begins when the correct anesthesia level has been reached. Then it's a matter of control

Who's putting you under?

continued

conditions required at every step of the operation he takes a great load off the surgeon's mind and hands, enables him to do a better, quicker job. After it's over, the anesthetist continues his responsibility, ordering postoperative drugs, blood transfusions or oxygen or any other measures necessary to speed your convalescence.

Experience has taught him to pay close attention to your feelings. That's why he'll usually prescribe a sleeping pill the night before the operation and a premedicative drug for morning to spare you any unnecessary misgivings. But that's only part of it.

"The best medication in the world is confidence," one anesthetist said. Confident patients respond more readily to anesthesia, actually require smaller, safer doses of drug, thus squander less of the reserves of strength on which they must call to withstand the shock of surgery and rally for a quick recovery.

The anesthetist puts great stock in the psychological effect of his first visit. One recalled ruefully, however, the time he opened the conversation with an exceptionally lanky patient by inquiring how tall he was and how much he weighed. At this point the doctor was called out of the room. A few minutes

later there was an uproar as the patient stormed out of his room and threatened to sue the hospital for sending him an undertaker.

The best way the anesthetist has found to calm your fear of "going under" is to tell you exactly what is going to happen during your stay. With a competent guide, the journey into oblivion can be a confident one. Some 10,000,000 Americans embark on it every year and the route is well charted. Like the old wagon trails to the West, it's divided into stages.

Stage One has the pleasant name of analgesia. If your anesthetist prescribes premedication—such as morphine, perhaps with scopolamine or atropine—this stage begins in your room an hour or two before the operation and lasts until you're on the operating table. Any lingering aches and anxieties begin to dissolve in a glowing haze of well-being. As your body grows numb you become aware of an inner illumination like a brightly lighted room in a dark house. Nothing that happens outside matters very much.

"When the patient finally enters the operating room," one anesthetist told me, "he should be able to say with Ovid: 'The time was come when you could not say 'twas dark or light, it was the borderland of night, yet with a gleam of day.'"

Stage Two is interesting but brief, starting and ending with the first few whiffs from the mask or the first few drops of drug flowing into your veins. Several million years of human evolution fall away in a few seconds as the outer brain layers are paralyzed, leaving only

the animal brain or thalamus to operate momentarily without civilized restraints.

Drunks, who reach this stage just before passing out, often become bolsterously gay, amorous or pugnacious, and surgical patients, particularly women, are often fearful of having given away secrets. Doctors will assure you that this doesn't happen. Speech occurs infrequently and is so blurred that only an occasional word can be distinguished.

One anesthetist recalled a patient who kept muttering the number "206." When the doctor kidded him about it after the operation the man had no recollection of it. But a few days later the anesthetist received a case of Scotch with a note signed by the patient: "Thanks, Doc. That number was hot."

As you lose consciousness, the last sense to forsake you is hearing, which actually seems to become more acute. The uniforms of nurses and doctors seem to crackle loudly, a dripping water tap sounds like a hammer striking an anvil, hushed voices resound like shouts in a cave. Doctors and nurses have learned to say nothing which might cause anxiety.

One anesthetist told of an experience in an Army hospital overseas where a soldier was being put to sleep for an emergency operation. "What is the patient's name?" asked the surgeon. "Duffy, sir," said the patient, rising to his elbows to salute—and instantly sinking back into oblivion.

Stage Three, called surgical anesthesia, is the payoff. As it deepens, one after another of the



The anesthetist continually watches the patient's breathing

protective reflexes is lost. The drugs which produce the muscle relaxation required by the surgeon also depress the heart and the muscles which contract and expand your lungs. Cessation of breathing marks the end of Stage Three and the beginning of Stage Four.

Every step taken into unconsciousness has to be carefully thought out for you by the anesthesiologist. Though no gleam of thought ever lights the way, the map is large-scale and precise, and a skilled and experienced doctor knows where you are every minute.

How does he know? Let's take a look at what happens after you are wheeled into the operating room and shifted to the table. If you're still awake your anesthetist, whom we'll call Dr. Nepenthe, carries on a cheerful soliloquy or banters with the surgeon and nurses for your benefit as he stretches out your arm on a board, swabs a spot with alcohol and inserts a small needle into a vein. Through this needle you may later receive such fluids as glucose, saline or blood, as the case demands. But to start with, you may receive sodium pentothal, one of the intravenous drugs commonly used in surgery.

"May we paint?" asks one of the nurses, and at a nod from Dr. Nepenthe she begins to swab the operative area of your body with an antiseptic solution.

Dr. Nepenthe, meantime, has stroked your forehead, felt your pulse through throat or temple, pumped up the pneumatic band around your arm to take your

(Continued on page 58)



Through pressure on the black bag the anesthetist is able to support or control the patient's breathing



Notations made at frequent intervals provide a record of the patient's progress throughout the operation

The anesthetist follows through in the recovery room





"She was playing," Stacy scolded. "And you killed her!"



tacy and

Life was routine for Johnny
until the city kids took over
the abandoned Frazier place

THE APRIL sun lay on the station platform when John Armond left the train to catch the bus for Nodding. He moved smoothly, a big man in blue denim and heavy boots with a hunter's cap cocked on the back of his head and M.D.A. Pratt's new gun case swinging at his knee. He had been away from the hills only 24 hours; but he was eager to get home to the bachelor lodge he kept for sportsmen, where there wasn't anyone to heckle him like M.D.A.'s wife did that rich old he-bear.

Johnny couldn't understand how a man could be boss everywhere but in his own home unless it was because, when a woman moved in, she took over the place. He had decided that no one was going to stomp around his place but him.

The bus was waiting across the road, and a covey of young ones were stretching their legs around the door. The middle one was a likely looking redhead about ten, and they ranged from a girl around six to one old enough to pick herself a stomping ground. Her hair was curly and brown with some red in it. Johnny liked red hair—especially with the sun on it. And he liked folks to be slim and quick. But she kept telling the others what to do like M.D.A.'s wife.



the young ones

By RULAND WALTNER

The middle boy then sidled up close to him. "You got a gun in that case, mister?" he asked.

Johnny grinned. Yesterday M.D.A. had wired, "Come at once. I need you." Johnny ran the best hunting and fishing lodge in the hills and M.D.A. was his friend and oldest customer. So Johnny left for the city.

M.D.A. was in trouble, all right. The deer gun he was dickering for was no good except to put on his fancy gun rack. The one they got was O.K. But M.D.A. caved before the ink was dry on his check.

"You're like a son to me, Johnny," he pleaded. "You keep it for me till I come in the fall."

"Sure," Johnny said. "But why?"

"My wife," M.D.A. said weakly. "She wanted another fur coat. She'll never see the difference between a \$9,000 coat and a \$900 gun."

The redheaded boy beside him persisted, "Is it a shooting gun?"

"Sure," Johnny answered.

Then the boss girl swooped on them.

"I've told you not to bother strangers, Hank," she said. Her voice was like music; but when she turned on Johnny, it crackled. "Is that gun loaded? I've

got a big family that I must keep out of trouble."

Johnny ruffled. He didn't know much about women and didn't want to—but he knew that slow talking riled them.

"Begging your pardon, ma'am," he said. "But if all these young ones are yours, you carry your years light."

"They're my brothers and sister," she said tartly. "They're why I asked about your gun."

She looked so little and fierce that he wanted to laugh, but he explained gravely, "On the one hand, guns are meant to be loaded. On the other, when they're broken down in a case, it's not likely."

She flushed from throat to forehead. It made her seem younger than she probably was. But just as Johnny started feeling sorry for her, she shooed her family onto the bus.

She and her sister took seats near the front. Two of her brothers were across the aisle and Hank was behind her. He motioned for Johnny to sit beside him; but he did it so she couldn't see. The boy needn't worry. She was reading a book called "The Dirt Farmer" with a picture of Glory Run on the jacket. Glory Run was a (Continued on page 66)

There's hop in this crop

*A blossom slightly bigger
than a man's thumb and
half as long is the key
to an amazing industry*

By VICTOR BOESEN



PUT a head on it all around, bartender, while we dwell a while on man's favorite drink of moderation and the thing that mostly makes it so.

Beer is as old as agriculture. Proof exists of brewing 6,200 years ago. Noah had beer to quaff as he tossed in the ark on the ancient flood. It has given drift to the course of history; the Pilgrims put in at Plymouth because their supplies were spent, "especially our beer," instead of going on to Virginia, the original destination. Many of our institutions owe their start to beer. America's first privately endowed college for women was founded by a brewer, Matthew Vassar, a fact still fondly noted by the girls in the verse:

And so you see, for old V.C.

Our love shall never fail.

Full well we know

That all we owe

To Matthew Vassar's ale.

After centuries of favor, beer remains a cosmopolitan beverage, drunk the world around. Its most enthusiastic adherents are not the Germans, as you probably have thought, but the Belgians, who each take aboard 36 gallons a

year. Next in line quantitatively are the British, with 23 gallons each per annum. We Yanks take 20 gallons, and then, in fourth position, come the Germans, with a modest ten gallons per head.

The key to beer's popularity is hops—which give the brew its flavor.

"This is the only thing that puts snap in the beer," declared big Julius Coplan, manager of the John I. Haas Company's Yakima Golding Farms at Yakima, Wash. "Take hops away from beer," Mr. Coplan went on, "and all you have is a cereal tea."

Karl Strauss, German-born brewmaster for the Los Angeles Brewing Company, whose brand accounts for more than 30 per cent of Los Angeles county's beer consumption, put it this way: "The hops add flavor and have foam-holding quality."

The hop, or *Humulus lupulus*, is a twining perennial vine whose shoots sometimes reach 35 feet. The plant has been known to live for more than 100 years. Its blossoms are greenish, fluffy little cones slightly bigger around than a man's thumb and generally about half as long, and it is these cones that the brewmaster uses.

Four tenths of a pound of hops generally is used per 31-gallon barrel. Time was, before the country became a matriarchy, when brew-

ers used nearly twice that much. The amount was cut down to please the ladies, who dislike a strong bitter taste. There are those who say that the gentlemen, too, having got used to soft drinks during prohibition, now prefer a more subdued flavor.

This is unfortunate for the growers, of whom there are fewer than 1,000 in this country. Except for some two per cent used in yeast, food, and medicine, hops are used in nothing else but fermented malt drinks, although there is research afoot to see if they may have some antibiotic value. This single-track purpose makes the price of hops sensitive to over- and undersupply. Through the years prices have slid up and down between five cents a pound and \$1.25.

Hops are raised in 17 countries, with the top producer being the United States. In 1951 we produced 58,000,000 pounds. Great Britain, next leading grower, produced 41,000,000 pounds; Germany, 21,000,000.

The foremost hop growing states, with 40,000 acres between them devoted to the crop, are Washington, Oregon, California, and Idaho, in that order. These four states account for 99.7 per cent of this country's production. The leading locality for hops is Washington's Yakima Valley. Lying in the lee of the Cascade Mountains, these 500,-



The hop is possibly the costliest thing to raise. Merely to get a crop started costs \$1,000 to \$1,500 an acre

000 acres, famous for apples and pears, contain not only the world's most concentrated hop production, but the hops from here are the biggest and tops in quality.

Here also is found the hub of the John I. Haas Company. Haas is the biggest hop grower in the world, the foremost exporter, and as a dealer handles a third of the crop sold in Washington. An Englishman who came to the United States in 1907, settling in Washington, D. C., he got his start in British Columbia. In 1920 he began buying hops in the Yakima Valley, and in 1930 he experimentally planted an acre of his own there.

Today the Haas Company, with headquarters in Washington, D. C., operates a series of farms around

Yakima of 180 to 700 acres each, plus more acreage in Oregon and California and holdings at Chilliwack and Lillooet, British Columbia. Now 72, Mr. Haas still is active head of the business, with his son, Frederick, serving as field commander.

But the man who first made the hop important in Washington state was Ezra Meeker, who later in his long life became the symbol of the covered wagon pioneer. In the spring of 1865, when New York was the leading hop state, Mr. Meeker planted a few root cuttings on his farm near Sumner, in the Puyallup Valley. The cuttings had been shared with him by his father, Jacob Redding Meeker, from a peck brought in from England. The

Meekers were encouraged to plant the roots by Charles Wood, a small brewer of Olympia, who was having trouble getting hops around the Horn by clipper ship.

Ezra's planting yielded him 180 pounds of hops that fall. He sold these to Mr. Wood for 85 cents a pound, or more money than his father made on all his other crops put together. Mr. Meeker later recalled the transaction in his book, "Seventy Years of Progress in Washington," which he wrote when he had become 91.

Hop raising quickly spread throughout the Puyallup Valley and into neighboring Oregon, and during the next 22 years the settlers of these regions were paid

(Continued on page 48)

Harvesting begins in August. The vines are cut around the clock lest the blooms get overripe



Quality tests are made on samples taken from 200-pound bales into which hops are pressed



Across the years



LEVI P. MORTON
Director,
The Home Insurance Company, 1853.
Vice President
of the United States, 1889-1893.

HOW A HUNDRED YEARS AND A BILLION AND A HALF DOLLARS HAVE

THE FIRST HOME agents appointed a hundred years ago faced an unprecedented era of progress—of challenge and of opportunity. The century that lay before them was to encompass the whole gamut of human experience—from booms to bust, wars and peace, growth and growing pains—yet always, in every field of endeavor, the keynote was expansion—and always the demands on the supplier of property insurance grew greater. They did a big job and did it well, these early Home agents. On the foundation they built and in the spirit of service they created, The Home today faces its second century with full confidence.



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THE HOME INDEMNITY COMPANY, AN AFFILIATE, WRITES CASUALTY INSURANCE, FIDELITY AND SURETY BONDS

\$20,000,000 for their hops. Ezra Meeker alone shipped \$500,000 worth to England each year.

Many English growers gave up as a result. The British soil averaged only 600 pounds to the acre, compared to 800 pounds an acre in New York and up to a fabulous 4,000 pounds an acre in Washington. Today around 1,700 pounds an acre is considered a good average.

The price stayed high, luring more growers to the field. After 15 years of the bonanza, Mr. Meeker wrote: "The high value of hops . . . culminating in the unprecedented price of \$1 a pound . . . has naturally attracted a widespread interest. An article that can be produced in large quantities and sold for nearly tenfold its cost, engenders a speculative feeling akin to that of a veritable gold mining furor of the palmy days of '49 when the discovery of gold in California was first made known to the multitude."

UNLIKE gold, however, there were soon too many hops. Prices collapsed. Then came mildew and the aphids, until then conspicuously absent. There was "no other alternative," glumly wrote Mr. Meeker, "than to haul down the flag and destroy the hop yards." Gradually thereafter the hop became established around Yakima where, being arid, it is more healthful.

But it seems probable that the halcyon days of Mr. Meeker's time are as irretrievably gone as the covered wagon that brought him to Oregon. No longer do hops bring nearly tenfold their cost. Today hops are possibly the costliest product you can raise. Merely to get started costs \$1,000 to \$1,500 an acre. And once started the trouble and expense of keeping the ball rolling, Yakimans estimate, is about five times that for fruit trees.

What makes it so expensive are the handwork, materials, and equipment needed. Suppose you're starting up in the Yakima Valley. The cuttings, which are root sections six or eight inches long, with two or three "eyes" or sprouts on each, are planted by hand in the fall. They are spaced seven feet apart each way, making exactly 889 hills to the acre.

The trellis for the hops to grow on is a major piece of construction. Posts are set usually 18 feet high and 40 feet apart in rows both ways of the field. Across the tops of these, again both ways, goes heavy wire, with each end post secured by a still heavier wire slanting down from the top to a chunk of

concrete or redwood buried in the ground.

On this large crisscross of supporting wires are stretched more wires. From these, strands of twine lead down to the hop hills, two strands to each, spaced at the top so as to form a "V."

This twine, or "coir," is the same material as is used to mat chair seats. Forty-four feet are needed for each hill, and it has to be replaced every year because it is necessarily sacrificed in the harvesting process. The replacing is done by men standing on a platform mounted above a tractor which moves slowly between the rows.

The twine used yearly in the Yakima Valley, it has been figured, would reach to Capetown, South Africa, and back five times, with enough left over for a slide trip to Jacksonville, Fla. At 15 cents a pound, which is 300 feet, this adds up to quite a sum.

When spring comes, the planted cuttings will have sent up a spray of sprouts through their two-inch cover. These are cut away. A

"You can't throw your weight around without the risk of being caught off balance."

—Franklin P. Jones

month later, the sprouts will be back; there may be as many as 50 of them. This time, all but three are cut back. Two of these are trained up one twine, the third vine up the other twine. In California, where the vines are lighter, two vines are sent up each twine.

Frank Brennan, one of the California managers for the Haas Company, who was school organist while taking a degree in international law at Catholic University in Washington, D. C., told how they once tried putting four or five vines on each twine. The resulting tangle choked the picking machines and slowed the harvesting, which must go fast lest the hops get overripe.

Beginning with the training of the vines, the cost of everything from here on is additional to the several hundred dollars an acre it has cost up to now. Come June it's time to start watering, the Yakima lushness being sustained entirely by irrigation. Watering is done every dozen days, with the rows re-ditched each time.

Through the summer, too, a sharp lookout must be kept for

pests, especially a tiny spider and the aphids, which cause a brownish discoloration of the hop cones, reducing their value. These pests are most prone to strike toward the end of June, when the vines are already at the top of their 18-foot climb to the trellis wires. Spraying is done from the ground with fog or smoke machines or, if the ground is wet, from the air by plane.

After the pests have been taken care of, it can only be hoped that no wind will come along from this stage forward. Wind causes bruises on the cones.

HARVESTING begins in August. In the old days, picking was done by hand, the trellis wires being lowered one by one. Hand picking entailed tremendous manpower, and the burden of it fell to the Indians. It was an ironic scene each fall: the Red Men, who once had aspired to pick the scalp of the paleface, coming back by the thousands prosaically to pick his hops.

There was Chief Moses, for instance, who in 1876 as leader of the Wenatchees plotted to wipe out the country. The chief was a man of kingly mien and splendid costumes, a famous detail of which was a massive gold watch and chain, worn "all same Boston man." Moses' emulation of "Boston man" grew to where, on his final trip to Yakima, he refused to pose in one of his costumes for a news photographer unless he was paid \$5.

The Indians took up other habits of the white man. They would earn enough to buy fire water, then start gambling. Now and then there was time out for a flurry of intertribal warfare.

"When the wind was right you could hear the hell raising for three miles," recalled Julius Coplan, whose grandfather grew hops near Ezra Meeker's in the Puyallup Valley.

When at last the mechanical picker arrived, after many false starts that went back to 1878, it was embraced with a swiftness and enthusiasm seldom shown by man for something new. Today, hand-picking has all but vanished.

Besides saving wear and tear on the grower, the mechanical picker permits much wider operations. To get Haas' picking done by hand today would require 10,000 workers. That could make hop growing economically impossible. The human picker used to get 50 to 75 cents per 100 pounds for his work. At present pay rates, up to 90 cents an hour, he would get \$5 or \$6 for that



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effort. As things are, Haas' payroll during the three-week harvest, mostly by migrant workers, is \$250,000 a week.

There are two kinds of machines. The first, invented by E. Clemens Horst of San Francisco in the mid-1930's, is stationary, requiring that the hop vines be brought to it for stripping. The second machine, evolved by Mr. Horst's son-in-law, Edouard Thys, is portable, doing the job right in the field.

There are only 228 portable pickers in the world, with 150 of them in Washington state. New machines can't be bought, only a reconditioned job. It costs about \$6,500, plus \$500 royalty each year for 17 years from the original sale.

The big operators like Haas, who was first to adopt the machines in the Yakima Valley, in 1937, favor the stationary pickers. These cost more than \$30,000 each, but have a greater capacity than the portable.

Housed in a shed amid the fields, the stationary picker is served by four trucks and 39 people. Fourteen of these are in the field, the others at the picker.

The vines, along with the twine supporting them, are cut four and a half feet above the ground by a worker who precedes the truck, and slashed at the trellis wire above by a man riding a platform mounted



high above the truck. The vines are lifted aboard lengthwise of the truck, and carefully laid out so as not to tangle. The bottom end of a vine is snagged between steel spikes standing out from metal bars resting in a rack behind the truck cab.

At the picker, the bars, vines hanging from them, are lifted one by one onto the machine and fastened into a mechanism which drags the vines between a succession of rotating drums fitted with wire fingers to comb the cones or hops off. Eventually, after leaves and twigs have been eliminated, leaving only the hops, they wind up in drying kilns.

By what happens here, the grower may still stand or fall, so far as a return on his year's work is concerned. The floor of the drying kiln is made of slats with open spaces between, and overlaid with burlap to keep the hops from fall-

ing through. They are spread out and piled to an even depth of 32 inches. Heat is generated in the room below. This is pulled up through the slatted floor and through the hops by fans mounted in cupolas in the roof, or the heat may be forced up by blowers.

By the first system, it normally takes 11 to 13 hours to dry a batch. The time varies according to the ripeness of the hops, and the temperature and humidity of the outside air. By the second system, with 45,000 cubic feet of hot air a minute going through the kiln, seven hours is required. This system is also less tricky, because of thermostatic control and independence of outside conditions.

AT BEST, though, drying is a job for a man with an instinct for it. The bull's-eye calls for leaving seven to eight per cent of the hops' moisture in them. If a hop cone is dried too much, it shatters, losing its flavor quality. The oil content goes down too, making a harsh, bitter taste in the beer.

Minutes can make the difference. Hence, it's well to have a man like Melville Ford, superintendent of Haas' Mabton Ranch, presiding at the kilns. Mr. Ford, a veteran of 20 years' experience, can plunge an inquiring hand into a batch of drying hops and tell, within five minutes, how much more time they need.

To give the final moisture content a chance to become suffused throughout the batch when it leaves the kiln, the hops are allowed to stand for at least 48 hours. They are then pressed into 200-pound bales, wrapped in heavy brown paper and burlap.

The marketing generally is done from dealers to brewers. In 1952, for instance, out of a total of 196,000 bales available for sale under a hop marketing agreement, about two thirds were sold by growers to brewers through dealers. The balance was sold direct to brewers by the grower-dealers.

The final scene is at the brewery. Karl Strauss, the brewmaster at the Los Angeles Brewing Company, showed what happens there. It seemed sort of anticlimactic after all that had gone before. The bales of hops are kept in a cool room of not more than 40 degrees. One by one as needed the brewmaster breaks them open and, guided by a secret formula, carefully weighs out what he wants. This is dumped into the brew kettles. That's all.

And now, bartender, let's check that taste; give us another round!

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Road Blocks to Good Highways

(Continued from page 31)

finest of roads it creates cavities and along comes a great big truck or even a small pleasure car and soon there's another hole in the road. So traffic is further snarled.

Who put the hole in the road? The weather? Yes. The contractor? Yes. The state that hired the contractor? Yes. The pleasure car? Yes. The truck? Yes.

THE truck is an important problem in our road mess. It is a problem easy to see and easy to state and is, therefore, frequently overstated. Trucks mangle some roads, injure others, pass over still others without doing any damage. Some roads, on the contrary, ruin trucks. When a piece of pavement cracks, you cannot say that Jones' truck, the last one across, did the damage. A thousand or 10,000 trucks before cracked it. So did 10,000 or 100,000 autos. Maybe it just rained too much in that area.

Trucking, a \$4,000,000,000 business, is part of the problem of highway congestion. But, in itself, it is not the answer. It is too simple to blame everything on the trucker because he may tie up traffic. The trucker rates discipline, but he also rates consideration.

So does the man who drives a so-called pleasure car. Without belaboring the humorous potentialities of calling it a pleasure car under current conditions, it can be pointed out that "pleasure" car is rapidly becoming a misnomer on purely statistical grounds. Thirty-five per cent of pleasure car driving is for "pleasure." The remainder is to get to work or do a job.

With 65 per cent of our pleasure cars and 100 per cent of our trucks and buses actually being business machines it is apparent that automobilism is no longer a luxury, even if Uncle Sam's tax structure tends to class it with perfume and lipstick. About 700,000 businesses and 10,000,000 American workers depend on the marriage of combustion engines and roadways.

The roads could be called factories and we are forcing this massive part of our economy to function in factories geared for 1939 production—and taxing them at 1953 rates. America is not giving the automotive industry a fair shake. All America is the loser thereby.

The United States Bureau of

Public Roads ran some tests in Virginia to see what a modern highway can mean to the account books of truckers, and thereby to our individual pocketbooks. The stretch between Washington, D. C., and Woodbridge, Va., was chosen and the comparison factors were the modern Shirley Highway and the famous old U. S. Route 1. The latter is a long way from being the worst four-lane road in America as it runs 20½ miles to Woodbridge, or a mile and a half more than the newer Shirley Highway. This extra yardage is because Route 1 goes through an old seaport, now a congested Washington suburb, called Alexandria. Fort Belvoir, southward, is another congestion point. Shirley skirts them both.

Because these roads personify the old the and new, the right and the wrong, the safe and the dangerous in highway construction, let's look at the two roads. They are both four lanes, but Shirley is divided. All intersections on Shirley are separated. U. S. 1 has many intersections and all are at grade. The latter has 15 stop lights, Shirley none.



The Bureau estimates that 682,500 gallons of fuel were saved annually by using Shirley. Truck and driver-hour savings were 311,000 hours, so in time the saving was \$2,000,000. John M. Akers, whose fleet runs some 2,300 trips a month through Virginia, says that the time saving on Shirley was between 30 and 45 minutes.

J. K. McLean, another fleet operator, likes the time his men save but is more impressed by the safety factor. Mr. McLean's records showed Shirley to be five times safer than U. S. 1. The safety inherent in modern roads may well be the strongest argument in their favor. The last complete available

figures are for 1951 and show 1,300,000 traffic injuries, 37,300 deaths and a combined bill of \$3,400,000,000 for lost wages, medical and insurance expenses, and property damage. Seven out of ten deaths occurred in rural areas. Modernizing our highway system is not the complete answer to our appalling accident toll, but it might easily be the most important single contribution.

There is no negative report on the need for modernization of our highways, urban and rural. But what will it cost? The estimates vary widely, as does the amount of time we can afford. A reporter can sound very knowing by taking a set of figures and attributing them to some impressive sounding organization which may or may not be self-serving.

THERE are figures ranging from \$40,000,000,000 to \$55,000,000,000 for the full job, with the attendant authorities. Respected sources put the sum at \$4,000,000,000 to \$6,500,000,000 annually. Time is estimated at five to 15 years. It is anybody's guess as to how long it will take, what it eventually will cost. Nobody knows how many cars will be on the road in 1958; what steel, cement, asphalt, and labor will cost; what inventions may lessen the shock to roads or strengthen the roads themselves. Nobody knows, likewise, how much it will rain between now and 1958. All anybody knows for certain is that the job will cost money.

Who is going to pay for it? We are. What happens if we don't? We're going to pay, anyway. The trick is to see that what we pay comes back to us in good roads built where they will do the most good for the most people. Roads are a state problem, primarily. The federal Government aids in the construction to the extent of about 12 per cent of the cost of our roads with the provision that the states generally match dollar for dollar and that the money be used on highways that are part of an overall, agreed-on scheme of interstate highways and feeder roads.

In the matter of state taxation there is a vexing problem called diversion. States collect highway user taxes, i.e., fuel and registration levies which are obviously levied solely for the use of the state's roads. Yet only 24 states return this money to their roads, in toto.

Uncle Sam has tapped a rich lode in the automotive transportation industry. In 1951 he collected \$2,105,536,000 from highway users. Of



*"It took me ten
distracting minutes
to hear what the man said—
just an hour ago
—already I've forgotten
important details!"*

**In just one quiet minute
I read the same
facts in a Telegram
—clear—concise—
accurate— And they
can't be forgotten!"**



***WESTERN
UNION***

this, about \$550,000,000 was fuel tax. The remainder of more than \$1,500,000,000 came from the excise levies on vehicles, parts, accessories, tires and tubes.

The thinking of the industry on these excise taxes is not as unanimous as the protest against diversion. But it is close to unanimity. The excise taxes are unpopular, obviously, because they are taxes. But they also have a strong odor of discrimination against highway users. They were emergency taxes set up in the depression. The depression went but the taxes lingered. Ideally, they should be removed to give states freer access to the moneys they need. Out of this would come better roads, more funds through greater use of these highways.

THERE are a few who despair of ever removing the excise taxes and they fight for their return intact to the highways, a theory known in the trade as "linkage." This looks better at first glance than it does at second. It continues a tax of doubtful fairness. It puts the Government deeper into the transportation business. It could lead to taking control of the roads away from the states and therefore away from the primary users. It will not eliminate the need for state highway personnel so it will duplicate manpower at you-know-whose expense. And it will concentrate the tax burden on the highway users.

The burden belongs, to a large extent, on the users—but not entirely. There is a vast group who profit from our roads without ever buying a gallon of gasoline or setting a foot to accelerator. The extent of local benefits arising from good adjacent roads has yet to be even lightly explored. And it must be to achieve a fair tax setup.

The opposite side of this rather grim picture is that every good road being built today seems to build up tax revenue far beyond expectations. Good roads attract more business than anticipated and return as high as ten per cent of the basic cost in taxes annually. However, the initial outlay is expensive and painful, yet not as expensive and painful as bad roads.

Toll roads are returning to popularity. They are a useful, if a last resort, technique. The U. S. Bureau of Public Roads, once violently opposed to toll roads, now takes a position of quiet disapproval. Federal-aid legislation prevents such aid for road projects and the Bureau points out that they are not the gold mines some people think.

Among other things, they require duplicate, paralleling free roads and they too frequently require duplicate personnel. But they are growing in popularity. Much of this growth can be traced to the fact that they are economical to most users only because the free roads are so bad. Perhaps the best test of the growth of toll roads will come when they have paid off their debts and we learn whether or not tolls are to remain forever, another tax on an already over-taxed group.

A particularly bright spot in the highway picture today is a fledgling organization known as PAR, or Project-Adequate Roads. It is a loose, informally aligned group of about 40 organizations whose interests are in the automotive transportation and allied fields. It started a year ago to inspire another campaign like the "Get us out of the mud" demand of a quarter of a century ago. The result



then was all-weather roads. PAR's slogan is "Get us out of the traffic muddle." PAR proposes to tell the American people the facts. The American people, following an old American custom, will do the rest.

The men who are interested in PAR know more about the traffic mess than anybody in the nation. They have the best theories and the best solutions. The group is seeing to it that the magazines, the radio, TV and the newspapers get these theories around. Large industrial organizations are distributing prepared literature in massive amounts. The movement out of Washington is spreading on a state and city basis.

PAR is, of course, a propaganda outfit. Also, the men who are spearheading it stand, generally, to profit the most from improved highways. But the group is not a straw organization mouthing platitudes. It is composed of men and organizations of widely and wildly divergent views. Obviously, to make its campaign work, many men of strong and mayhap stubborn character have had to get together and give a little and take a little for the common good.

For instance, the American Automobile Association sits side by side with the American Trucking Association without attendant bloodshed. The Portland Cement Association finds common ground with the Asphalt Institute. A Department of Commerce subsidiary (the Bureau of Public Roads) endorses a project in which the Chamber of Commerce of the United States—a charter member—is joined. Certainly, all the groups could meet in common assembly, but evidence indicates the meetings are more than token. In less than a year two groups withdrew.

The brightest jewel in the organization's collection of public eye-openers is a thing called "Sufficiency Ratings," which it is sponsoring. Sufficiency ratings were born in 1946 in Arizona and are a near foolproof system for pinpointing a highway's deficiency. A rating is nothing more than a report card on the road conditions in a given state.

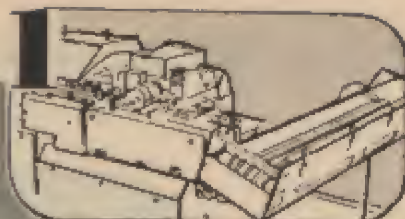
Highway engineers inspect the roads and rate them on safety, service, and conditions. A perfect road, if such there be, gets 100 points. When a state has been rated, a glance at the map shows instantly where the urgency is greatest. A sufficiency rating in the hands of the state newspapers makes it difficult for any politico to channel money into a stretch of road rated at 73 points when the map shows clearly important areas where the ratings are 48 or 61. Sufficiency ratings get first things done first in 22 states.

And getting first things done first is the answer to our highway troubles. There is just no room in our road problems for the gratification of anybody's whims.

It's going to be a long battle, a costly battle, but still a familiar battle. It isn't the first time Americans have had road problems to lick. Once, it was forests, rivers, and Indians. Later it was mud. Today it's growing pains. And, as always, the reason for victory is the same—the country's future. **END**

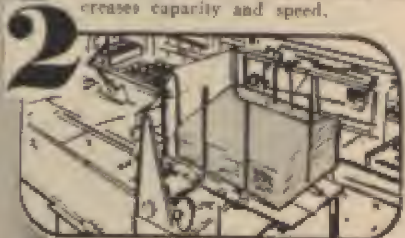
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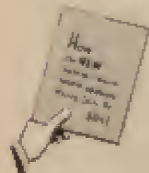
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Actual dollars-and-cents saving is so phenomenal that a purchaser like the City of Philadelphia writes: "Cost of the machine already has been recouped in its first month."

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YOU CAN BE SURE...IF IT'S Westinghouse

THE LADY WITH RED FINGERNAILS

A LADY went clamming one summer day in 1932 and, as a result, women now have their choice of several hundred shades of pink and red nail polishes, and the lady has a thriving business.

She is Helen Neushaefer, who invented colored nail polish. After an afternoon of digging soft shell clams, her nails were scratched and stained. There was then no nail polish in existence as we know it today.

She and her husband were giving a dinner party that night. Her husband was a paint manufacturer, and suddenly she remembered some red paint he had stored in the cellar. On impulse, she covered her nails with it.

The dinner guests were fascinated by the color of their hostess' nails. Mrs. Neushaefer was inspired by an idea.

The next day she conferred with chemists at her husband's paint factory. They were amused, but helpful. There were the usual headaches to starting anything new.

But these difficulties could be solved chemically, and two months from the day she went clamming, her first nail polish was being bottled and sold to beauty parlors. Mrs. Neushaefer then persuaded some five-and-ten-cent store buyers to stock a few bottles of her polish.

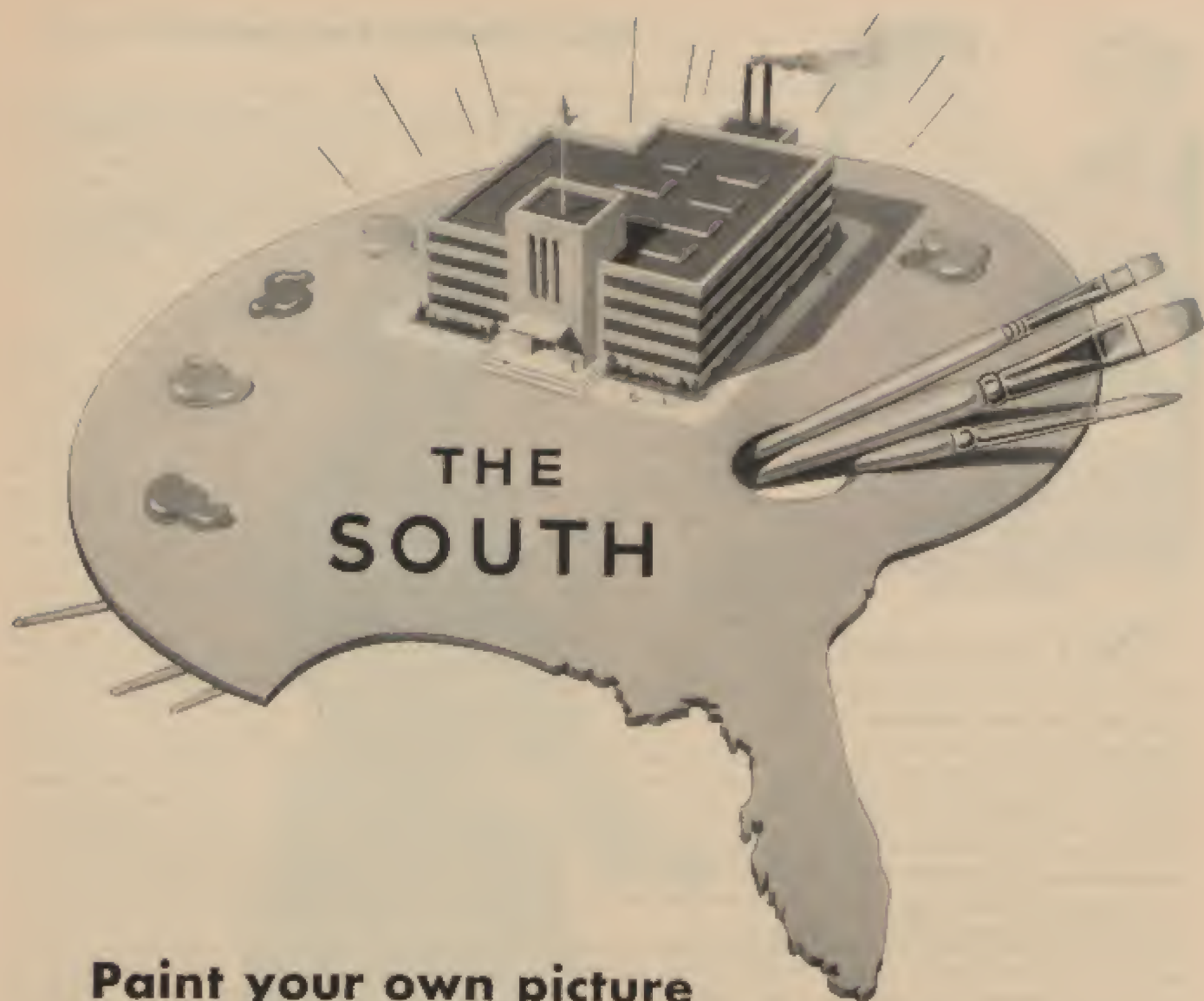
At first women bought it as a novelty, then sales began to pyramid, and six months later hundreds of stores were carrying the polish.

Today, Mrs. Neushaefer has a \$6,000,000 business with her nail polish and complementary items. She produces 30,000,000 bottles of polish yearly, and has three plants in operation.

Her business policy is as direct as she is: "Make an inexpensive, indispensable product that requires constant replenishing; find your market, and success is inescapable!"

Recently the Neushaefer plant was preparing its strangest order—5,000 bottles of ebony black polish for export to Africa!

—AMELIA LOBSENZ



Paint your own picture of industrial success!

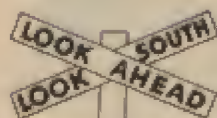
YOU'LL FIND THAT here in the Southland of today the picture almost paints itself. And here's why—

Picture your factory in a land blessed with abundant resources just waiting to be tapped. In the picture is a mild and temperate year-round climate. In it, too, are the benefits of plentiful power and fuel—eager-to-work, easy-to-train manpower close at hand—and the great buying power of fast-expanding consumer markets.

Isn't your factory entitled to a place in this picture of the modern South?

"Look Ahead—Look South!"

Harry A. DeBatta
President



SOUTHERN
RAILWAY SYSTEM

WASHINGTON, D. C.

The Southern Serves the South



"No" she cried!

● No what? No stamps! Used 'em all up last night, and she hasn't had a chance to get to the postoffice yet. Second time it's happened this month. The boss is as sore as a boiled—sore boss! Had two URGENT letters he wanted to make the noon plane... His fault, really. This no-stamp rhubarb gets the raus when you have a DM!

● The DM is the desk-model postage meter, little larger than your phone. Can be set for as much postage as you want to buy...protected from loss, damage, theft...and automatically accounted for!

● It prints postage for any kind of mail, as you need it...right on the envelope with a dated postmark—and your own small advertisement, if you like...Even handles parcel post. And has a moistener for sealing envelopes...A great convenience in any office, any time.

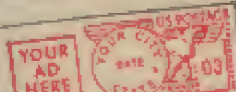
● There's a model for every office, large or small. Ask our nearest office to show you...or send the coupon for free booklet.

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Name _____

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Who's Putting You Under?

(Continued from page 41)

blood pressure, observed your breathing, and made the first of a series of notations which will go down on your chart at frequent intervals to provide a continuous record of the variables affecting your condition.

If you have a bad heart, he may also take a continuous electrocardiographic reading. It's the sum total of these variables—respiration, pulse, blood pressure, color and moisture of skin, eye reflexes and many others—which tell him the exact depth of your anesthesia at a given moment.

As soon as you reach the third or surgical stage of anesthesia, Dr. Nepenthe opens your mouth, inserts over the tongue an air way—termed by some doctors perhaps the single most important instrument in anesthesia. Over your nose and mouth is fitted a mask connected by flexible rubber hose with the anesthesia machine. This is a compact apparatus fitted out with a complicated array of dials, valves, gas absorber, ether vaporizer and tanks of oxygen and various anesthetic gases. Protruding from the machine at about knee level is a black rubber bag which contracts and expands as you breathe.

SURGERY begins at a signal that the correct anesthesia level has been reached.

When there is too much bleeding, Dr. Nepenthe administers blood through the needle in your arm. This passage into your blood stream is also used for administering curare or some other muscle relaxing agent.

In anesthesia as in surgery itself, safety is a matter of control. That's why Dr. Nepenthe, like many specialists in his new field of anesthesiology, prefers the inhalation method to any other. In automobile driving terms, the vein he keeps open in your arm serves as a kind of choke. But access to your lungs is both accelerator and brakes. With control of your breathing, Dr. Nepenthe can readily switch from one kind of drug to another, administer them in exact amounts and bring you rapidly back to consciousness whenever required.

To achieve better control of your lungs he may dispense with the mask entirely and administer gas through an endotracheal tube—a rubber hose which fits directly into

the windpipe. This breathing system is so completely closed that it could keep you alive indefinitely under water. It's a valued asset in chest surgery, where there is always the problem of lung collapse, and in some surgery requiring long or deep anesthesia. Many anesthesiologists use it even in routine abdominal cases.

Once your lungs are linked, by tube or mask, to the anesthesia machine, you can breathe a little more easily. Through the pressure of his finger tips on the little black bag, the anesthetist may feel any movement of your lungs. Even while he's following the progress of the surgeon and checking blood pressure, pulse, skin, eye reflexes, and other signs which tell him your condition, he remains in close contact with the pulsations of the bag.

Whenever necessary, he can squeeze it to rinse your lungs of one kind of gas or vapor before introducing another. With rhythmic pressure of his fingers, he can take over your breathing altogether. When he does this it doesn't necessarily mean that your lungs have quit, but that he is helping to improve their efficiency temporarily.

Aside from breathing gas mixtures or having drugs injected into a vein, there is another and an entirely different approach to anesthesia. That is the blocking off of nerve impulses so that there are no sensations of pain. And here the muscles also are relaxed.

By injecting drugs into the spinal



"Permit me to say, madam, we feel you have been most generous to give us such a large piece of your mind"

*"Annual income twenty pounds, annual
expenditure nineteen nineteen six, result
happiness. Annual income twenty pounds, annual
expenditure twenty pounds
ought and six, result misery."*



THAT MAKES TWO OF US, MR. MICAWBER.
The National Chamber is for *economy* — and
has been doing something about it. We have worked
zealously to have Uncle Sam replace the easy-sliding
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Government means an out-of-kilter budget,
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the seedlings of socialism.

Today, with a more healthy climate in
Washington, the Chamber has intensified
its constructive work for economy.
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studies every phase of federal spending and
taxing, determines where possible cuts can be made,
and publicizes this information. Also, we keep
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to know what they are thinking and planning;
we want them, in turn, to know what the
business men of the country are thinking.

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We reflect the sentiment of the local and state
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and the thousands of firms and individuals in our
membership. And through meetings, personal
conferences, and through our informative
materials and regular publications — "Taxpayer's
Dollar," for instance — we keep our members
posted about what is going on, and encourage
them to take their citizenship responsibilities more
seriously. You may care to see the current
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The safety and effectiveness of any drug depends more on the skill of the anesthetist administering it

Three years later a Hartford, Conn., dentist named Horace Wells was inspired by a side show demonstration of laughing gas (nitrous oxide) to use the stuff in extracting teeth. But when he demonstrated his painless extraction at the Massachusetts General Hospital in Boston the method was considered a failure because the patient cried out—even though he



said later that he had felt no pain. Next year, however, at the same hospital, another dentist, Dr. William Morton, used ether to anesthetize a patient with a tumor of the jaw. After painlessly removing the tumor, the surgeon, Dr. John Warren, pronounced the verdict of his profession: "Gentlemen, this is no humbug."

Anesthesia has made much progress since then but most of it has been concentrated during the past couple of decades in the hands of a relatively small number of specialists. The American Board of Anesthesiology is only 12 years old and has awarded specialist diplomas to only about 900 men and women who have met its stiff requirements—four years of medical school, a year of internship, two years of residency in anesthesia, three years of specialized practice and near-perfect marks on oral and written exams which stump two out of three candidates. There are about 2,800 other physicians who are competent anesthetists but who have not qualified formally as diplomates of the board.

THE economics of anesthesia is in a state of flux. Blue Shield plans now generally pay the cost of anesthesia by a private practitioner but hospital insurance plans like Blue Cross usually cover anesthesia if it's administered by a salaried staff member, usually a nurse or intern. Certified specialists are wary of taking salaried jobs because, they say, they can't give patients individual attention that way and because their employers use the profits of anesthesia departments to help cover losses on nursing staffs and general medical care. One typical case they cite is that of a Pennsylvania hospital which paid its anesthetist \$13,000 for running a department netting about \$90,000.

Most anesthesiologists, at least 80 per cent, practice on a private fee-for-service basis and charge the patient a fee equal to about 15 to 20 per cent of the surgeon's fee. They average from \$15,000 to \$20,000 a year, though a few may make up to \$50,000.

The American College of Surgeons and the American Medical Association maintain that every hospital where surgery is performed ought to have the services of at least one certified anesthesiologist. As a patient, you are entitled to demand no less. At least it's not a bad idea to ask a question any surgeon would be sure to ask if he were in your position: "Who's putting me under?" **END**

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You can learn a lot about *safe* driving. Learn how to keep alert for the safety of the other fellow. How to signal correctly with lights and flashers. Learn about dimming lights and placing flares beside disabled vehicles.

Yes, son, the men who drive America's big trucks can teach you a lot. They're the world's safest, most courteous drivers. You have to be a real professional to pass their driver's tests. And you have to keep in top physical condition to stay on the job.

When you're a little older, son, you'll understand how important those trucks are to your American way of life. Practically everything you eat, wear or use comes by truck. American industry is vitally dependent upon truck service. Fast, efficient service feeds the production lines and then carries the finished product to market via the big trucks over highways that reach *every* community.

These trucks keep millions on the job, create new jobs and help make our standard of living the world's best. If America's trucking industry didn't keep things rolling, we'd all be slowed down to a walk.

If you've got it—a truck brought it!



AMERICAN TRUCKING INDUSTRY

American Trucking Associations, Washington 6, D. C.

Home is Where The Plant Is

(Continued from page 27)

covered by chest contributions. It donates to relief and health organizations, like the Red Cross, cancer, tuberculosis, infantile paralysis, heart and other health campaigns. It does not make political contributions, nor does it make gifts to sectarian or denominational religious organizations, feeling that its stockholders, employees and customers represent all religious groups, and all such donations are a personal matter. It does not invest in "courtesy advertising," except when a request has unusual merit.

A Harvester company man, E. W. Pengelly, Evansville Works public relations director, heads the Red Cross campaign for Vanderburgh County, which includes the city. Last year Mr. Pengelly headed the industrial division, he and his aides raising \$45,500, or \$1,000 more than the division objective. The company gave \$2,500, and employees brought the total to \$9,140, or 158 per cent of quota. The firm contributed \$5,000 for the 1953 Community Chest drive, employees making the total \$18,000, or 115 per cent of quota.

COMMUNITY relations includes a cordial relationship to competitors, in the corporation's philosophy. Its chance to prove this was excellent when it established its refrigerator plant at Evansville—already one of the great refrigeration centers of the world. It is the home of Servel, Inc., and the Seeger Refrigerator Company. The three concerns, without compromising competition, cooperate in community enterprises, stage the friendly Red Cross blood-donating contests, and work together to boost the Community Chest and other civic movements.

Early in Harvester history in Evansville, Mr. McCaffrey came from Chicago to appear on a radio program with Louis Ruthenburg, then president of Servel, Inc., in a discussion of "Industry and the Community Spirit." When Servel celebrated its silver anniversary, Harvester's local radio broadcast saluted the rival concern, congratulating it on its twenty-fifth birthday, and wishing it continued success.

The mutual good will of the competitors isn't something to stop the clock, but to set it ticking faster,

in the opinion of Kenneth G. Kent, president of the Evansville Chamber of Commerce.

"Here are three great companies engaged in the same business in the same community," Mr. Kent says, "and the competition is naturally keen. But all are civic-minded, and in their desire to serve Evansville and its environs well they have struck a high level of what we might call corporate citizenship. All Evansville is proud of their fine contributions to its welfare and morale as well as to its prosperity and improvements."

Every Sunday afternoon the company puts on a half hour radio program called the "Evansville Story," devoted to local news, incidents, anecdotes and sidelights of the week, and to promotion of various community activities and movements.

When the Fire Department sought to prevent Christmas tree fires by making trees fire resistant, the "Evansville Story" presented the fire chief and Lewis Otterson of the Harvester staff in a panel discussion of disaster dangers and the method of treating trees. Citizens were urged to take their trees to the Fire Department for a free dip, the Junior Chamber of Commerce providing the materials.

Another radio feature that won approval and gratitude was the making of tape recordings of interviews with Evansville fighting men in Korea, shipping them home and playing them back on Harvester's broadcast.

Holding open house has proved an effective means of promoting cordiality between industry and the community. Harvester at Evansville has found. More than 18,000 people attended a two-day event held during the winter of 1951, with visitors allowed to roam at will, inspecting as they pleased. Different shifts kept the plant in



Miller's Early 19th Century Sawmill in East Topsham, Vermont

Industrial Giant?



No, Duncan Miller, Vermont logger (pictured left), is no industrial giant, but his power and lubrication needs are just as vital, and served just as assiduously by Cities Service. Cities Service is proud of its long and successful record serving America's top industrial organizations, but it is equally proud of its record with the "Duncan Millers."

Says Duncan Miller: "I produce some 600,000 board feet of lumber a year. My 100-horse diesel drives all my equipment. I use Cities Service Diesel Fuel because it gives me all the power I need and burns so cleanly to provide easier equipment maintenance.

"In my trucks, tractors, chain saw and sawmill, I use Triple HD Koolmotor Oil. I even use Koolmotor in my high speed bearings that carry heavy loads... and Koolmotor has done every job with complete satisfaction for me.

"I also use Cities Service Gasolene in my trucks, tractors and chain saw. I heartily recommend it where a lot of power and economy of operation are needed."

You don't have to be a sawmill operator to realize the value of Cities Service one-source buying for the finest, most economical power and lubrication, and the services of our expert Lubrication Engineers!



"Well, after all we paid for this house I certainly don't intend to let the closets stand idle"



FOR SEVEN YEARS, Miller has used only Cities Service Products and "They have given best results at all times."



Here are a few of more than 24,000 hermetically sealed containers stored in a Portland Cement Association laboratory near Chicago. Many of them may not be opened for 50, 75 or 100 years.

Sealed in these containers are samples of portland cements and aggregates used in more than 10,000 specimens in PCA field research projects scattered from coast to coast. The concrete in these specimens will show varying resistance to a wide range of wearing forces. By analyzing the samples in relation to the performance of specimens, it will be possible to design ever more durable and *lower-annual-cost* concrete to help build a stronger America.

Such research looks to the future. It is a symbol of the faith the cement industry has in our country. The Association, in its continuing program of research, makes all information gained immediately and freely available to the public through its field engineering service and educational and promotional programs. Thus this knowledge can be quickly used by architects, engineers and contractors. All PCA activities are made possible by the voluntary financial support of its 69 member companies who make a large part of the portland cement used in the U.S. and Canada.

PORTLAND CEMENT ASSOCIATION

33 W. Grand Ave. } A national organization to improve and extend the uses of portland cement
Chicago 10, Ill. } and concrete through scientific research and engineering field work

full operation so that families could see everything. And they came in big bunches. Individuals or groups lingered as long as they desired—usually to see and talk with some relative or friend at his work.

Scattered throughout the works were 60 "commentators" to explain the machines and factory operations, and to answer questions. Chosen for their courtesy and patience, they were good salesmen for the company. Thirty safety deputies were on the alert, and if a crowd around the machines in an area became too large, operations there were shut down temporarily. Arrows marked the best routes to follow, but people were not herded along them. Nurses were on duty for any emergency.

Large posters displayed at frequent intervals explained company policies, employment practices, insurance and safety provisions, recreation and community activities. Some posters visualized the breakdown of the Harvester dollar; others revealed the company paid out the year before \$600,000 in holiday pay when the works didn't operate; other posters showed the multitude of other businesses related to the production of refrigerators. Drawings illustrated the operation of the assembly line of freezers. The posters attracted almost as much attention as the machines in operation.

Space was cleared for the entertainment of the crowds, features being a clown, trick dogs, a magician, an impersonator, and others with stage acts. There was also group singing. Two cub tractors pulling trailers provided hayrack rides for youngsters. Free refreshments were served. An inventory of the remains showed the guests had made away with 35,672 cups of ice cream, 13,800 Cokes, and 4,080 cups of coffee. Children took home 9,000 bags of candy, fruit and toys.

WITH an average of 300 of its employees in the Korean fighting, Harvester at Evansville operates through its armed services committee to keep contact with the men and their families. Calls are made regularly at the homes; Christmas and birthday gifts of food, shaving kits, candles, pocket flashlights, and magazine subscriptions are sent to the men, also regular letters and Harvester publications.

One soldier mailed Manager Schreiber a letter with a dollar bill, asking for some stationery. Mr. Schreiber immediately ordered a pocket-size writing packet with

waterproof zipper case. The soldier got his dollar back, the writing packet, and a letter of thanks for his idea. Similar packets have been sent to all the plant's men in the armed services.

Harvester personnel, from executives to janitors, are civic-minded and share in city progress in a multitude of ways. Through the Chamber of Commerce, the various service clubs, recreational agencies, schools and churches, and other organizations and activities, they are as closely integrated into the life of the whole Evansville area as any segment of its citizenry. The spirit is one of patriotism and service, as well as efficiency in industrial production.

There is variety, too, such as the Toastmasters' Club, training up future Chauncey Depews for presiding over after-dinner programs. Whenever an Evansville crowd wants a quality speaker with



humor and counsel spicing his talk—a speaker without a C.O.D. attached—it phones the Harvester or Serval Toastmasters, who are not only adept but also obliging at free speech.

What does all this community relations business add up to? In brief, a real "Hi There, Neighbors" spirit which translates itself into enthusiasm for the company and their jobs on the part of workers and staff—this, in turn, means greater efficiency, honesty and thoroughness in production, also a low labor turnover. It also fosters the good will, admiration and co-operation of Evansville and its environs, qualities which express themselves in countless beneficial ways.

Of this there is no doubt in the mind of Henry Gonner, amiable manager of the Evansville Chamber of Commerce, who asserts that it is a wise corporation which aids and encourages its branch plants in making a strong tie-up with the local community; the results are threefold: community progress, more amicable and stable labor relationships, and better profits for all. Good will, he affirms, is good fun and good economics. It pays off in both satisfaction and dividends. Harvester will tell you Henry knows what he is talking about.

END



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THEY PAY FOR THEMSELVES

Stacy and the Young Ones

(Continued from page 43)

half brother to Johnny's Jersey, Bull Run, and if she liked this picture, she ought to see his animal. No one would guess he'd been a runt calf a year ago when Johnny bought him at a dispersal sale.

The calf started growing the minute he hit the south meadow; right off, M.D.A. wanted to buy him. That made Johnny feel good because M.D.A.'s hobby was Jerseys and he had the best show herd in three states. But Johnny wouldn't sell.

When the bus started, Johnny dropped into the seat beside the redhead.

"I'm Hank Frazier," the boy said eagerly. "We're going to live on a farm outside Nodding."

Johnny's thoughts stopped with a jerk.

"Not on the Frazier place!" he exclaimed. "No one's been on it since Jeff died."

"He left it to us," Hank explained. "Stacy says we've got to live on it now that Dad and Mom are gone."

"You'll starve!" Johnny declared, thinking of the rocky ground and the scrub timber. "Couldn't she get a job in town?"

"She had one," Hank said. "But—well—" His blue eyes clouded. "School let out at four, and she couldn't get home till six. Us fellows broke some windows, and we had to go see a judge. We paid for the windows; but he said if we got in trouble again, he'd make us wards of the court. We talked it

over and Stacy said kids ought to have someone to send them to school and be waiting when they got out. So she wrote to the man who has the mortgage here and Mr. Self said to come on. He'd look after us."

The Frazier place, complete with mortgage and Sid Self! He'd look after them! At 29, he had been written up in several Sunday supplements and one national magazine. The way he'd left the city and made a fortune in the hills where other folks starved proved opportunity was where you found it. It was never mentioned that his opportunity came from fleecing suckers.

He sold them cheap land and big promises. In time, they drifted on, leaving their land, their down payments, and their improvements to him.

"Have you ever farmed?" Johnny asked.

"We grew tomatoes in our back yard," Hank said proudly. "And Stacy's reading about farming."

Johnny groaned. He hated the fool streak in him that made him stick his neck out; but he liked kids and these Fraziers were helpless.

"I'd better talk to your sister," he said gruffly. "Hang on to this."

He handed the gun case to Hank and rose.

Stacy went on reading. Johnny reached for the six-year-old by the window, picked her up and sat down with her on his knee. He was going to think of this Stacy person as another kid. But Stacy looked



"It's for you, Gladys. Your baby sitter wants to know where you keep the fire extinguisher"

up and he floundered. Her eyes were bluer than Hank's.

"You can't live on the Frazier place," he said. "On the one hand, your business is not mine. On the other, it is."

"Your first hand's right," she agreed promptly.

His ears began to burn. "I'm your nearest neighbor. There's a quarter mile between our houses, but I'll know you're there. Starving!"

"Really?"

She didn't seem impressed, but he went on doggedly, "Your place is like mine—mostly scenery. Old Jeff got by because he could live off his gun. But Hank says you're going to try farming."

"I've been reading a lot," she said loftily. "We'll do all right if we work hard, Mr.—"

"John Armond," he said. "Everybody calls me Johnny."

"Mr. Armond," she amended. "It's the only way our family can stay together."

"Lots of girls get married," he suggested.

"Is that advice?" she asked. He could feel her laughing at him. "It can't be a proposal!"

"Gosh no!" he said. "I'm a lone wolf."

She opened her eyes wider and studied him.

"My freedom means as much to me as yours does to you," she said. "Why should a woman spend her life making mince pies for some man when she'd rather have lemon?"

"Gosh," Johnny stammered. "What are we arguing about? On the one hand, I don't want to get married. On the other, you don't either."

"There you go. On the one hand and on the other! Maybe you think talking like that sounds broad-minded and reasonable. But people get along better when their two hands work together!"

"Gosh!" he muttered.

He looked around desperately. From the corner of his eye, he could see Hank waving the gun case around and sighting along its leather top. Johnny started to lift the young one off his knee just as the tip of the case hit the signal cord.

The bus jarred to a stop.

"What's wrong?" the driver shouted.

When no one answered, he got up and stalked down the aisle.

"Which one of you kids did that?" he bellowed.

Johnny slipped off his hunting cap and dropped it out the window. This would give him a chance to get away from the Stacy person

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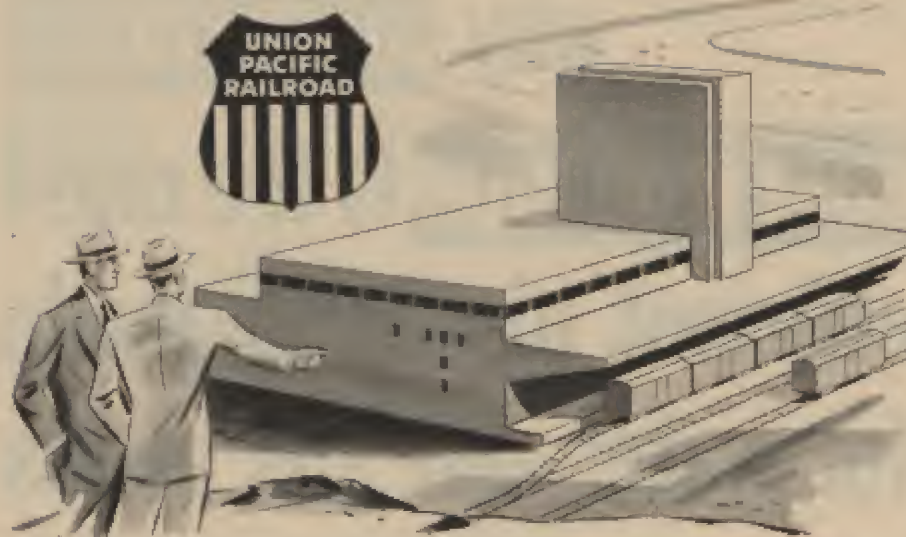
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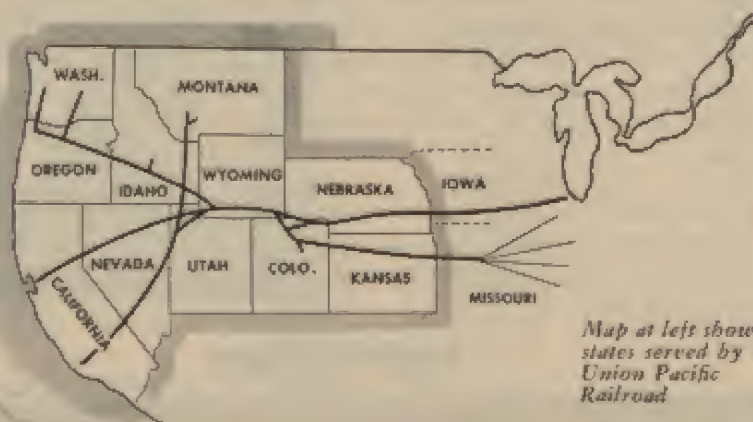
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UNION PACIFIC RAILROAD

without seeming to run. He put the little girl in her seat and went to meet the driver.

"Sorry." He loomed over the man, but he was mild about it. "My hat's out there. I got to get it."

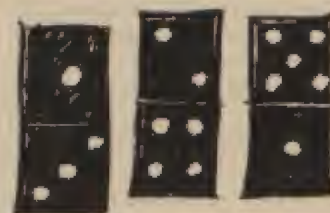
Stacy looked at him hard. She'd seen what he did, but she didn't say anything; and Hank was as grateful as a pup.

The rest of the way Johnny stuck close to his seat and told Hank about the foxes and wolves in the hills. Stacy pretended to read; but he knew she was listening. So he made things sound rugged. Hank wriggled against him in delight.

"I didn't know this was such a keen place," he said. "I'm sure glad we've got such a swell neighbor!"

At Nodding, Sid Self was waiting for them in his black convertible. Johnny thought no man should look that smooth, but the smile Stacy gave Sid would have melted ice in January.

Twice in the next few days



Johnny started to the Frazier place to see how the young ones were. Each time, he saw Sid's car there. So he angled away, down the hill to his new dam. Then one morning Bull Run woke him, snorting and pawing the ground. Johnny grabbed his gun and went out, thinking he'd treed a bobcat.

When he got to the meadow, he found Bull Run at the Frazier fence, bucking and kicking like a spring calf.

There wasn't any bobcat. He was showing off. When Johnny got closer, he saw why. Two Jersey heifers were milling in the Frazier barn lot.

Johnny swore. He recognized the heifers. Sid got them when he foreclosed under a mortgage in the next county. At that time, he hadn't learned enough about farming to know that twin heifers are seldom interested in raising young. These two had everything to be winners except the mother urge, and a dairy cow without that is just something to run up feed bills.

The Fraziers were sitting along their barn lot fence. They yoo-hooed at Johnny. Stacy even motioned to him. So he jumped the wire between the two places.

"Aren't they wonderful?" Stacy

asked. "We never hoped to have purebreds for years! If it hadn't been for Sid—"

Johnny didn't let that "Sid" make him cautious. He demanded, "Where is he?"

"He brought them last night after dark," she explained. "He said they'd get used to our place sooner if they woke up here."

Johnny's mouth was dry. "You mean he didn't want anyone to see him dump them on you."

"Mr. Armond! We may be city folks, but we know good stock is important. We're glad he let us buy them."

"Buy them!" he yelled. "You didn't pay good money for Pesky and Poison!"

"We got him to add their price to our mortgage."

Johnny groaned. Hank nudged him.

"What did you call them?"

"Pesky and Poison," Johnny said glumly. "Pesky's the fawn one. She's not so mean. Or, maybe I should say Poison is meaner."

"They're not mean!" Stacy cried; and, before he could stop her, she opened the gate and stepped into the barn lot.

Pesky dropped her head and stood watching Stacy. Poison moored and dropped hers; but she did not stand still.

Johnny reached Stacy just as Poison rolled her tail and charged. He grabbed the girl as he would a sack of flour and tossed her out of the way.

He sidestepped Poison, caught her sharp, neat little horns, and twisted her fierce head while he dug his heels into the soft ground and laid his weight against her.

Poison flipped on her side with Johnny on top of her. He got up but she lay with her legs straight out and her head flat on the ground.

Stacy was getting up, too. Tears streaked the dust on her face.

"She was playing," she scolded. "And you killed her!"

"I didn't," Johnny denied. "Maybe I should have. She might play with the kids that way."

Poison scrambled up, then trotted docilely toward the barn.

Stacy stopped brushing at her dress and stared at Johnny.

"I hadn't thought about that," she said. "And Sid couldn't have either."

"Sid'll be rich if he kills every widow and orphan in the country!"

"You two make me tired," she protested angrily. "On the one hand, you tell me he's cheating me. On the other hand, he says you're half wild, like your bull. On either

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hand, you can both let us look after our own affairs."

She ran toward the house. Johnny watched her till the back door closed.

"Gosh!" Hank was trying to talk like Johnny. "They throw them that way in the rodeo!"

Johnny looked down on a circle of admiring faces.

"Don't try that till I show you how," he said sharply.

"Will you? Honest?"

"After a while," he said. "You've got to learn a lot first."

Stacy was coming from the house. She'd washed her face and tied a ribbon around her hair.

"Won't you forgive me, Johnny," she said, "and have breakfast with us?"

He stayed; and, as he tucked away wheat cakes, he had to admit that she knew as much about cooking as she did not know about farming.

After that, he decided not to talk about the heifers. They would show up Sid. They broke the fences they couldn't jump and ate the garden as fast as it came up. Johnny put a yoke on Poison, but she hung herself in an hour. He hobbled her; and she crowhopped faster than Pesky walked. She chased the preacher into the house when he came to call and broke into John Feller's corn patch.

Naturally, Johnny didn't get much done on his place. Sid was a



problem, too. He balanced everything that Johnny did. When Johnny cleaned the well, Sid brought a new well rope and pulley and had a tractor trucked out for the plowing. Johnny had to tinker it; but Sid left it all summer.

Johnny lost weight; but Stacy appreciated him. That worried him a lot. But in spite of the heifers she appreciated Sid, too. She believed in him, especially when he brought some chicks he'd picked up in Claire County and added their price to the mortgage.

Johnny tried to be reasonable, even when the chicks started dying and Stacy worked herself jumpy and tired eyed and used up the last of the insurance money she'd been saving to pay the interest on Sid's mortgage. Johnny told himself everything was working out for the

best. When the gossips in Nodding said she might marry Sid, Johnny weighed it.

On the one hand, he himself didn't want to marry anyone. On the other hand, Sid was rich. He wouldn't give her much to spend, but he'd deck her out so she'd show him off like his fine car did. Then Johnny came to what Sid would do to a ready-made family. Especially Hank. A man has to understand wild things to understand young ones; and all Sid knew was making money. So there Johnny was, clear around the subject.

EXCEPT for getting muddled when he argued with himself, Johnny got along all right. He mended the Frazier's garden fence so the heifers couldn't get in. He showed the young ones where to get wild berries, and Stacy cleaned the jars Sid brought and filled them for winter. By fall, the late garden was almost ready and there was plenty of wood put by. Hank had been splitting himself. Johnny thought he'd earned a treat. So he took him prowling the hills.

Nightfall found them on the far side of the Peak. He showed Hank how to build a fire so the overhang of a cliff held the heat, and they spent a cozy night.

Near sundown the next day, they clumped onto the Frazier porch and Stacy came running to the door. When she saw them, her face flushed up like she was glad; but she went from glad to mad.

"I thought you were dead!" she cried. "I didn't sleep all night!"

Telling her they weren't dead didn't do any good. And saying when a man goes into the hills folks expect him back when they see him made her worse.

"Sid called you a wild man," she cried. "He's right!"

That did it. His dander rose so fast it shot him off the porch and home before he could think up an answer. He was done with her.

He began to get ready for the hunters. He brought Bull Run up to the corral and hauled in big logs for the fireplace. He drove to Nodding for provisions. He tried not to look at the Frazier place.

Old M.D.A. came down ahead of the season so he could practice with his new gun. They tramped as far as his waistline and bunions would let them. He gurgled like a car with a choked radiator.

"What's the matter, Johnny?" he demanded. "A fire or something? Or are you in love?"

Johnny stopped. No one could talk to him like that!

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M.D.A. persisted. "I'd hate to see you make a mistake. But you act like you're going to."

Johnny was fit to burst, but just then he saw the heifers. M.D.A. saw them, too. They were in the walnut grove, and they showed tawny splotches through the underbrush, like deer. Johnny knocked aside M.D.A.'s gun barrel.

"I'll pay the fine," M.D.A. begged. "Please let me get my deer. This may be my last hunt. My wife says it is."

Johnny snorted in disgust. "Those are twin heifers! First Sid Self sells them to the kid. Then you try to kill them. The two of you'll



send her back to town with no job and no money to take care of her family."

M.D.A. lowered his gun.

"This is worse than I thought," he said, dropping on a fallen log with his head in his hands. "Me, a Jersey man, out shooting heifers! And you sunk to your antlers about a girl with a family! It's time she left here."

"You'd better go to the lodge," Johnny said grimly. "I'll drive the cows home."

That was easier said than done. He worked them toward the break in the fence; but, just as they reached it, Sid's car turned through the Frazier gate. Pesky snorted and stood still. Poison snorted and ran.

Twenty minutes later, Johnny drove them into the Frazier yard. The wreckage he found dazed him. They had galloped through the kitchen garden, bolted around the house. The clothesline was down, and freshly washed clothes dragged in the dust. The door to the lean-to was open, showing a welter of broken jars.

From the kitchen came Stacy's wail.

"Oh, Sid! While you took the children to town, the cows got out. We had food canned for all winter, but they've ruined everything."

"We'll get rid of them," he soothed her.

"It's too late," she said drcarily. "I tried so hard to keep us together. But we'll have to go back to town."

"No, you'll not." He sounded

masterful. "I'm going to marry you."

Prickles ran up Johnny's spine. Blood drummed in his ears.

"I called Johnny a wild man and he went away," she sobbed. "And the children are mad at me."

"What's the difference?" he asked. "They'll be in boarding school after we're married."

Stunned silence followed, as if at last his words had meaning for her.

"I'm not marrying you," she said. "I wouldn't, not if you owned the county."

He laughed tolerantly. "Don't play hard to get, honey."

He must have tried to kiss her; for, when Johnny burst in, he was rubbing his cheek where red lines streaked it and she was standing against the wall like a cornered kitten.

She met Johnny with a desperate cry. "Make him go away!"

Strange feeling swelled in Johnny. He felt big. The whole world was inside him, trying to get out. He wanted to take Sid apart.

"You heard her," he said.

"She doesn't mean it," growled Sid. His neck was red; and his shoulders hunched as if the world was big inside him, too. "She can't. Her interest's not paid. That makes the mortgage due—tomorrow."

"She's not mortgaged," Johnny said.

They stalked toward each other, and Stacy began circling them, making little begging sounds. That only pushed them on. They fought all over the kitchen. When Johnny saw the opening he wanted, his fists went to Sid's chin—one, two. Johnny waited while he got up.

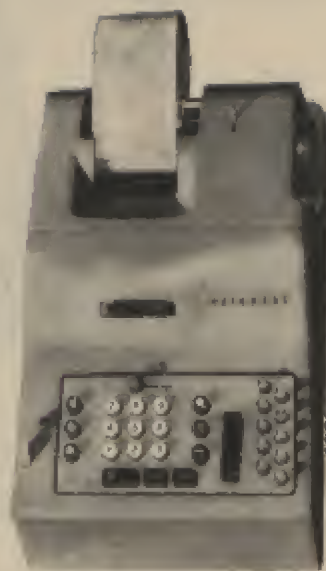
SID didn't look back as he climbed into his car, but he yelled as he started his motor, "I'll fore-close tomorrow!"

Stacy came and stood beside Johnny; but he kept watching Sid's car as it rolled away and trying to breathe regular before he faced her.

She spoke first. "You used both hands together. I'll remember that when I'm back in town."

Her face was tilted up, and her lashes were shiny-thick and soft and her mouth was trembling. Johnny could not say anything. He kept thinking of Sid's mortgage coming due and making her go back to town. Of course, he'd wanted her in the city, but not like that; and all the money he had was tied up in his place with nothing coming in yet from the hunting season.

M.D.A.'s voice broke in on them



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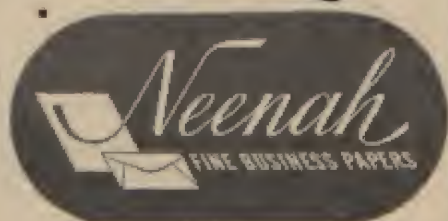
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as he came and stood by the porch.

"Remember the mistake I made about those heifers, Johnny, down in the walnut grove? Well, after you left, I went—"

"If you shot Bull Run—" Johnny yelled in new anguish.

M.D.A. shook his head.

"He's in the corral, smooching through the rails with that fawn heifer. It's the other one I shot." He winked at Johnny! "If this gets out, I can't ever look a Jersey man in the face. You've got to help me find the owner of those cows so I can shut him up."

"I'm the owner," said Stacy. "I won't tell if you hate it so."

M.D.A. drew a deep breath. "Then I'm still a Jersey man," he said gratefully. "But I'm bound to tell you that was as fine a heifer as I ever saw. Losing her the way you did, I want to pay heavy damages."

"That's not necessary," she said. "I wouldn't have wanted her killed. But on the other hand—" She looked shyly at Johnny as she used his way of reasoning. "On the other hand, I'm glad I don't have to live with her anymore."

JOHNNY'S head reeled. He tried to reason things out; but he stalled on M.D.A.'s wink. It was as if he had admitted Johnny to some secret brotherhood with passwords and everything.

"You make her understand," M.D.A. begged him. "Money doesn't mean a thing to me; but my self-respect does."

He looked so miserable that Stacy's resistance crumbled.

The check he handed her made her eyes widen even before he said, "There's a job for you at the M.D.A. Pratt Company if you want it."

The world dropped from under Johnny. After all the trouble Stacy had been in, she must want to get out of the hills; and now, thanks to M.D.A., she had a job, besides a check big enough to pay a year's rent in the city. He didn't want her to go! He wasn't half as afraid of her as he was of losing her. He squared his shoulders. He wasn't going to let her see he was scared of her—not until he had to.

"Let's all go into Nodding and pick up the young ones," he said. "On the one hand, it's a good day to pay off a mortgage. On the other, it's a fine day to get married!"

"Can't we make our hands work together and do both?" she asked.

Chuckles shook M.D.A. "You sure had me worried, Johnny! But the minute I saw her, I knew you'd be happy. She's little and full of zip, like my wife."

Electronics: Too Tough for GI's?

(Continued from page 35)

lists are more than 300 with probably another 1,000 or so special purpose tubes. The huge number complicates both production and usage.

Such a list needs ruthless editing. I speak both as one with some governmental background and also as a practical industrialist.

Simplification in maintaining and operating the flying and fire control systems of supersonic aircraft must begin with the designer and continue even after the prototype has been accepted and the device placed in service. One answer is to extend "The Little Black Box," or the "Go, No-go" technique of maintenance.

"The Little Black Box" is a complete unit which can be plugged into a circuit or system. Using such a box, all the operator maintenance man has to do is to plug a mobile testing console into each box on a "Go, No-go" test. If it is a case of no-go, the faulty box is ripped out as a complete unit, replaced with a perfect one and the failure sent back to the factory.

MANY oppose this policy of immediate return to the factory, but, as a factory man, I know that we frequently get conflicting reports of equipment failures from the fighting front. This is especially true when field repair work has been attempted. But, as one pilot put it, "When you are traveling 600 miles an hour it is a bad time to be in a quandary." If "The Little Black Box" is returned to the factory, persistent breakdowns can be isolated and remedial measures taken.

The Air Force is improving this system. In World War II, it hauled out whole engines or gun assemblies and replaced them; the repairs or cannibalization coming later, at leisure and in the rear. The Navy complains, however, that carrying "The Little Black Boxes" aboard ship is tantamount to carrying another radar or sonar set on an already overcrowded vessel. The Army contends, with wisdom, that it is logistically impossible to send the boxes back across a sea for repair and that we must establish small shops in rear areas which in effect would be little factories.

We have already taken one long step toward efficiency and simplification. We are getting away from



Invitation to disaster

(forty-three times out of a hundred)

Just how dangerous is it for a businessman to cross his fingers—when he puts away his accounts receivable, tax, inventory and other records? What could possibly happen to them in *your own office*? In *your own solid-looking safe*?

If you can't find the Underwriters' Laboratories, Inc. label inside or outside the door of that safe, it could *incinerate* your records when temperatures got above 350° F.

A so-called "fireproof" building would just *confin*e the fire, make it hotter.

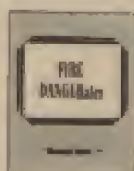
And the insurance policy you'd count on to collect fully calls for "proof of loss within 60 days"—virtually impossible without records.

See, now, why 43 out of 100 firms that lose their records by fire never reopen? Don't risk it! Find out how little it costs to provide the world's best protection for your records and your business—with a modern Mosler "A" Label Record Safe. Consult classified telephone directory for name of Mosler dealer in your city, or mail coupon, now, for free informative material.

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Such rugged work is rough on the discs, constantly subjecting them to heavy impact and shock. If incipient cracks are present in the cut-out, sometimes caused by grinding the notch, the disc may suddenly break down in the field.

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This is one more example of Borg-Warner's guiding principle "design it better—make it better." It is typical of the many ways in which Borg-Warner serves America every day.



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the cry of "security" every time a nonmilitary man makes a suggestion or asks a pertinent question. But, in the solution of this over-all problem, industry must have an increasing voice and the opportunity to make changes in design. Incentive contracts should be let which would reward the contractor for recommendations and actions leading to reductions in the number of operational controls, size, weight, the number of components and cost in a device which will still produce the same or a better operational result.

THE present system of contracting is one of the major faults in the world of military electronics. Frequently one company receives a research and development contract, completes it satisfactorily and then finds that the manufacturing contract is awarded elsewhere. The reason is an archaic lowest-bidder law. In the past few months I have seen more than \$6,000,000 of contracts awarded to companies that were unable to carry them out. Two companies, in fact, went bankrupt in their efforts to carry out contracts which, for their own sakes alone, they never should have been allowed to undertake.

Such contracts should be awarded only to qualified electronics manufacturers. I have recommended that, in our all-important guided missile program, it should be mandatory that the work covering electronic research, development and production be subcontracted only to qualified manufacturers.

The guided missile known as the *Matador*, for example, presented such a problem in the early days that 95 per cent of the tubes delivered for use had to be rejected. A guided missile delivers such a terrific shock in its period of initial fast acceleration that a whole series of new problems arose. The missile at one time required a lieutenant commander and his staff to check it out electronically for flight; it now takes one chief petty officer and a mobile console testing unit. I asked a chief one day what he thought of the complete box unit and the "Go, No-go" theory.

Grimacing, he said, "Nobody dismounts a tire and patches the tube on the road any more, does he? He just takes the tire off, slaps another one on, and sends the old one in to the experts for repair, nicht wahr?"

The next time I saw that chief with his scraps of various foreign

languages picked up in six years of service, he was in civilian clothes, doing about the same sort of job. I asked him about it. The answer was simple.

"More money, Skipper."

He had left the Navy and joined the field staff of a major manufacturer at nearly double the pay.

There, for one example, is the type of problem over which I could develop a fine case of schizophrenia. As a manufacturer, I know that my industry as a whole is understaffed for engineers; we go to great lengths to obtain trained men. At the same time, as a part-time government official, I am anxious that the services obtain and retain the tremendous numbers of electronically trained men they require now—a need which will be multiplied in wartime.

Maj. Gen. Kirk B. Lawton, recently deputy chief signal officer and now commanding general of the Signal School at Fort Monmouth, N. J., and I were discussing this problem recently. I asked him where he thought he was going to find the men to operate and repair his equipment if war came. He grinned, then said: "Where will we get them—? From you. As things stand now we'll just have to draft them right out of industry." I pointed out that, if all the affected services did that, they would soon find that no new elec-

"America is great because she is good, and if America ever ceases to be good, America will cease to be great."

—Dwight D. Eisenhower

tronic equipment was being delivered to them. Again, in this scarce field, industry and the services must collaborate and not compete.

Let's you get the impression that modern electronics is a mass of popping tubes and inadequate personnel, let me state that large numbers of competent men, both in and out of the services, are seriously trying to solve the riddles. However, they are restricted in their efforts by enlistment and draft periods, limitations on promotions, pay and other considerations which only Congress can correct.

But ridiculous things can happen, too, to leaven the urgency of the search. Take the strange case of the *USS New Jersey*. The *New Jersey* steamed out of the Gulf of Panama and swung northwest for



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Sasebo, Japan. Her search radar began going a little erratic. Some days it would be effective for 80 miles, other days it would drop to a mere ten or 20.

After a time in which the watch seemed inadequate to locate the trouble, an officer and the electronic crew of 33 specialists went to work, without results. Then the ship reached Sasebo. A young civilian expert came aboard and, in a short time, was climbing up the mast grinning broadly. There was the wave guide—a small screen about five by eight inches and similar to the one you might have on your television—and in it was a small dead Panamanian crow. The bird had been caught in the wave guide while the *New Jersey* was going through the locks and had been fried to a crisp. The search radar continued to work after a fashion, but, whenever it rained, the bird's body picked up moisture which shorted out the set until the sun and electric current dried it out again.

One fleet commander estimated that, mostly due to incompletely trained personnel, ten per cent of his electronic gear was always out of commission, that another 50 per cent was unreliable. Thus, in that fleet 60 per cent of the total of vital electronic equipment in service was in poor condition.

THE Navy is not unique in this. Electronics are new and most of the officers of today are not. The majority went through their academies before ultra-high frequencies were common; most of the rest have received basic training with a lot of theory enabling them to administer installations, but not really to teach and carry out detailed repair work under field conditions. Pity, then, the enlisted man whose basic training is not adequate to cure promptly a complex disorder in a unit of vital equipment, and whose officers angrily demand that it be fixed immediately. By working all night he may stumble across the answer. That answer may be to get out of the Navy.

The new bombsight in our B-36 plane is basically an electronic device. It costs about \$250,000, as contrasted with the \$8,000 bombsight of World War II. The new bombsight is only one of dozens of items of essential combat equipment. Some of these items on the B-36 cannot be reached from inside for repair while in flight. But most of the vital equipment can be, and redesign has spread it around the inside of the aircraft

in such a manner that one shell or rocket hit will not disable the plane's entire system.

In arguing for simplicity of equipment as a first step toward breaking the personnel training impasse, it must not be misunderstood that we want to hold back the scientist in his development of new weapons. It is, perhaps, a matter of conditioning our young men to modern progress. I cannot believe that the young men of today are any brighter than those of 25 or 50 years ago—and they certainly are no duller.

HUMAN capacity to absorb new knowledge will, in time, reduce today's problem in electronics to nothing—but that makes today's problem no less real, its solutions no less urgent.

But, meanwhile it is my belief that, when an idea for a new military item is given to the research and development engineers, it should be clearly spelled out that the resultant equipment must be such that it can be operated efficiently and maintained readily by men with an average level of intelligence and training as presently constitutes our armed services.

I do not agree with the recent Assistant Secretary of Defense, Anna M. Rosenberg, when she replied to a letter of mine on this subject, saying: "The services' career programs have developed ample promotion opportunities for qualified personnel." Nor do I agree that she is correct when she insists that the services have been able to supply sufficient personnel to conduct their operating electronics programs.

This attitude on personnel is unrealistic and the services know it. Not only must our draftees and enlistees be given more in-service inducements to take up the severe mental strain of this career within the Army. A man must also be attracted to it because of its identification with high-paying civilian jobs when, as, and if he should return to civilian life.

One plan that has been suggested is that after a man has been in the Army for a year and shown some aptitude for this type of work, he should at that time be given opportunity to re-enlist for a period of four or five years to obtain this training in full, including the necessary math for true proficiency—and all with the proviso that he will remain available in the reserves when he takes his acquired skills into private industry.

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FROM ART TO INDUSTRY

WHEN the armorer of the fifteenth century hammered steel plate into suits of armor to resist sword and mace, he was setting the pattern for modern industrial steel production. In the days of knighthood, however, the armorer was considered an artist.

To reinstate art into industry the Worcester Pressed Steel Company of Worcester, Mass., has reproduced the Middle Ages in a vaulted hall patterned after a German castle. In this room in all their splendor are dozens of suits of armor, mounted and afoot, superb examples of the armorer's craft and accepted by connoisseurs as examples of the fine arts.

Known as the Higgins Armory, the whole collection is housed in a building constructed of steel and glass. The rivets of the steel construction are visible on the external face of the museum.

The lessons learned from the armorer's craft provided the basis of today's pressed steel industry. Pressed steel gives us automobile bodies, pots and pans, refrigerators, tin cans—to mention a few of the almost indispensable articles of contemporary life.

Thousands of visitors a year walk along the flagstone floor of the Armory to view the collection which has been saved for posterity.



All the flags, weapons and pieces of armor in the Higgins Armory collection are authentic

In the middle ages battle gear was hammered out in workshops similar to this reproduction



GRUNDY—THREE LIONS

Rookie Metals Make Good

(Continued from page 29)

terials which can't take quite as much heat but which do provide protection from the elements. Once they lick this problem for jet engines, nonmilitary applications will follow. It is easy to foresee trucks and buses carrying their own gas-turbine engines for greater power and heavier payloads.

That's the way research works. Someone wants a specific answer to a problem, and is willing to pay for it. But the results spread far afield.

Various government agencies have contributed greatly to the development of these metals to meet defense needs. But research goes on all over the country—at non-profit institutions like Battelle, at independent research outfits, and in the laboratories of industry itself.

THE germanium transistor, for instance, a tiny device which has been called the first serious rival of the vacuum tube, was invented at Bell Telephone Laboratories. A method of spraying selenium onto a steel plate, for use in rectifiers, was developed by Sam Tour and Company, Inc., an independent research organization in New York. Lucius Pitkin, Inc., another New York firm, once made gold 99.9999 per cent pure for use in cancer research. And so on.

If the answers are wanted badly enough, science will find them. They have already found some. The world of tomorrow is dawning today.

Consider the case of germanium, for instance. It was discovered in 1886 but was not prepared commercially in the United States until 1942. It was, and still is, a rather scarce metal. But ten years ago that didn't matter, because nobody wanted it. It was considered something of a nuisance, in fact, because it appeared as an impurity in zinc ore.

During the war, however, science became interested in the electrical properties of germanium. It is a semiconductor material, which means that it has some properties of a metal and some of a nonmetal. It will rectify electric current, or conduct it one way and not another. That made it adaptable for use in radar detectors—if scientists could get the metal pure enough.

So they went to work refining the stuff, and after months of

effort they got it boiled down to what they believed was one part in 10,000,000 of pure germanium. But they still couldn't control the current flowing through it as rigidly as they wanted.

Now they deliberately set out to adulterate the product that they had just finished purifying. But this time the impurity would be of a certain kind and in a certain amount.

They tried adding everything—platinum, tungsten, rhodium—all the rare and precious metals. Finally someone thought of ordinary tin. They threw in a specific amount and found that tin-tinctured germanium was as controllable as a trained seal!

Today germanium rectifiers and transistors can do the work of a complicated vacuum tube. They're impervious to weather, unbreakable, and minute in size. One type of germanium transistor used by the Bell Telephone System is about the size of a pea, uses less power than a pocket flashlight, and can amplify an electrical signal about 100,000 times!

Only a little sliver of metal is needed for the transistor, but even so, it's an expensive item. The present cost of a germanium transistor one quarter by one eighth inch is about \$30.

Some day—thanks to germanium—we may be able to make giant "brains" and thinking machines in sizes small enough to be portable. Vest-pocket radios will become common. The whole field of electronics design will be revolutionized.

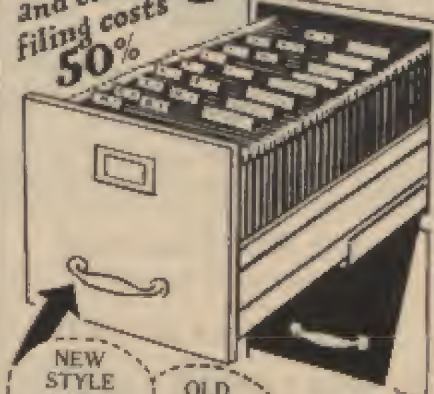
But this is not now. Defense and atomic needs make heavy demands on our short supply of germanium. It will remain a scarce metal until we can develop new sources.

Two other metals in the semiconductor field are silicon and



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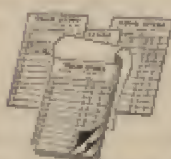
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selenium. The former is hard to purify and difficult to work. For these reasons it has not yet come into its own, except as an alloy.

Selenium is the Ugly Duckling of the family. Once it was a drug on the market. Its main use was in the glass industry, to take out the greenish tint and produce a clear, white glass. But nature was yielding more selenium than anybody wanted.

About a dozen years ago a group of businessmen formed the Selenium Development Committee and asked Battelle to find new uses for the metal. The scientists went to work. They helped to develop the importance of selenium in such applications as the electric eye and the photoelectric cell.

SELENIUM'S biggest claim to fame is as a rectifier. The battery charger your service station man uses may be nothing but a bank of selenium rectifiers. However, a major use is in improving the machinability of certain metals.

Selenium has another interesting application. Since the metal conducts electric current when exposed to light, resists it in darkness, it has given rise to a new method of printing. The process, known as xerography, provides direct, positive printing that is quick and permanent.

One of the problems with selenium, as with all these metals, is to get it pure enough—and keep it that way. Not long ago an electronics manufacturer came to Lucius Pitkin, Inc., with a problem. He was making selenium rectifiers in a six-story plant, and although the selenium room was air-conditioned, the stuff was picking up enough impurities to render it useless.

Pitkin sent a crew of metallurgical detectives to the scene of the crime. They discovered that there was an air intake from the roof which was picking up iron, silicon, nickel, aluminum and magnesium from nearby exhaust pipes. Not much, but just enough to spoil the selenium.

The problem was solved by moving the air intake and installing a scrub-tower to cleanse the incoming air.

A lot of hard, plodding work goes into every advance in science. Few discoveries are lucky accidents. Most of them are the result of deliberate attempts to reach desired ends. The use of silicon in one alloy, for instance, was plotted on paper in the laboratory long before it became an actuality.

Silicon's special properties, it

was thought, might be combined with those of such basic metals as steel, aluminum and copper to give greater strength. When the paper work was done, the scientists tried it—and it worked. One result: Most home water heaters are made of a copper alloyed with silicon.

Even the discovery of metal-laden ore is seldom accidental. Instead of a grizzled prospector stumbling over a hunk of titanium, you have a team of trained geophysicists swarming over the ground in a deliberate search for pay dirt.

The story of the world's largest titanium deposit, at Allard Lake, Canada, is a good example. About 550 miles northeast of Quebec city, the Allard Lake region was in wild, unsettled country. There were no roads there in 1941, when the first survey was made. Dr. J. A. Retty and his party, of the Quebec Geological Survey, traveled in canoes. They were based at an old French fishing village, and they carried with them simple dip-needles—for ilmenite, the ore which bears titanium, is magnetic.

But make no mistake. There was nothing haphazard about the operation. They were looking for ilmenite, and they found it.

There were no communications in the area. Dr. Retty and his men had to paddle their way back to



civilization to report their find. But it was some time before a systematic search of the area could be undertaken.

At this point Keneco Explorations, Ltd., a Canadian subsidiary of the Kennecott Copper Corporation, took over. They sent men into the wild lake country to confirm the find, and to pinpoint it. Almost the first line they ran, they hit an enormous deposit of ilmenite.

Tons of the stuff had to be brought out for assaying, so Keneco undertook "Operation Flying Horse." They literally flew pack horses into the area so that the ore could be carried out. Later an airborne magnetometer was flown over the whole area, and smaller adjacent deposits were located.

Then the work began. A 27-mile railroad line had to be built over

the rough terrain. Power lines had to be constructed. The mine and smelter, jointly owned by Kenne-cott and the New Jersey Zinc Com-pany, finally began to operate in 1950—nine years after the original discovery!

Titanium is one of the most im-portant of the "new" metals. Its comparatively light weight and its high resistance to corrosion sug-gest many uses, particularly in the transportation field. Imagine ships that would never have to be painted, and which would be so light that they could carry tons more of cargo!

Food and drug manufacturers are interested, too. They are eye-ing titanium for tubing and pipes which have to carry acid sub-stances. But the cost of the metal is still so high that it's prohibitive.

Right now the Sam Tour com-pany is working on a titanium lin-ing for a steel tube. Here industry will gain the advantages of a non-corroding metal inside and a cheap metal outside. It will have dozens of practical applications.

These are recent developments. Only in the past ten years has titanium become important as a pure metal. Its oxide was in de-mand as a whitening agent—in paint, white sidewall tires, and white shoe polish. But now we are beginning to learn how to fabri-cate and weld the metal, and to use it in planes, trains, and ships. "Some day," one scientist said, "the lock on your front door will be made of titanium."

MUCH of our progress in the use of "pure" titanium must be cred-ited to Dr. William J. Kroll, a Luxembourg scientist. About a dozen years ago he came to the United States and tried to interest industry in his process for fabricat-ing the pure metal. But no one was interested—no one except the United States Bureau of Mines.

They made Dr. Kroll a consul-tant and went to work developing pilot plants using his process. In 1946 a couple of papers were pre-sented to the American Institute of Mining and Metallurgical Engi-neers on the subject. Maybe it was a late night session, maybe it was the last day of the meeting—at any rate, attendance was small and hardly a ripple stirred.

However, just to prove that con-vention-goers do at least read the reports of what goes on at such gatherings, the news about tita-nium began to get around. Soon there was a lively buzz in the in-dustry. Executives started rushing

(Continued on page 86)

from
"Smoke Signals"



MO-PAC

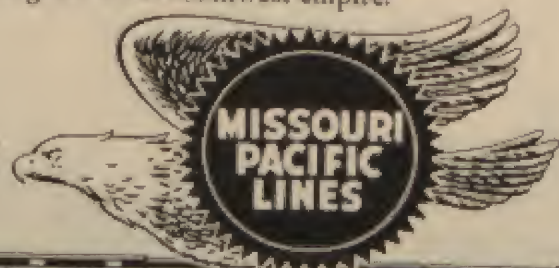
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a green thumb
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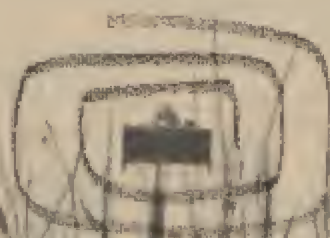
The editors of Nation's Business would tell you that this department gives invaluable help in keying the content of this magazine to the realities of day to day living—in the plant, at the office, the store, in the home and the community.

Some 1952 articles covering the Chamber Service Department viewpoint included "Albany's Way of Making Hay", from the August Nation's Business; "Reading, Writing and Living", in the May issue, and "What This Town Needs", March, 1952.

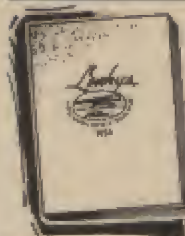
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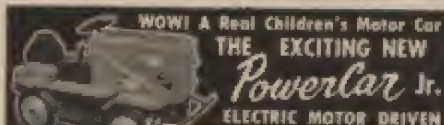
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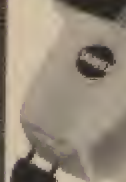
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(Continued from page 83)

out to Utah for a look at the gov-
ernment pilot plant. The military
looked too. Titanium was on the
boom.

There are still major problems
barring the widespread use of
titanium. One is how to cast it into
slabs and ingots. They're now using
a cold-mold arc-melting furnace
that looks like something out of
Rube Goldberg via Buck Rogers—
miles of pipes, tubes, vacuum
chambers, knobs, and switches.

A sister metal to titanium is zir-
conium. They frequently appear
together in old beach sands. Zir-
con crystals were known to the an-
cients, and the fire-flashing gem is
still a dazzling ornament. But it
was not until about 1920 that the
pure metal, zirconium, was pro-
duced.

It has some of the same proper-
ties as titanium—corrosion resist-

ance, particularly. It also has a
special property which singles it
out for present and future impor-
tance. Zirconium has one of the
lowest absorption rates of neutrons
of any structural metal. It is there-
fore used in the construction of
nuclear reaction power plants.

A commercially pure grade of
zirconium, containing one and a
half to two per cent hafnium, is
available also. It is this metal
which holds great promise for
mankind in surgical applications.

Since the metal is perfectly com-
patible with human blood, bone
and tissue, zirconium can be used
as silver plates have been used in
the past—to replace damaged bone
tissue. Healing salves containing
zirconium are also being produced.

If you want to get Buck Rogers-
ish about these "uncommon"
metals, you can envision all sorts of
fantasies. Molybdenum, for in-



THE BEST SALES STUNT I KNOW

FOR THE past 35 years, as a
credit executive, I've been a
student of methods employed
by merchants to up their sales.
As past president of the Asso-
ciated Credit Bureaus of
America, I've witnessed, joined
in and heard many unusual
selling gimmicks.

But the cleverest and most
successful came to my atten-
tion 30 odd years ago, when I

was assistant secretary of the
Chamber of Commerce of Port
Huron, Mich. Part of my job
consisted of amassing credit
information from local mer-
chants, for the benefit of other
merchants. Whenever I visited
"Whitey," the smiling proprie-
tor of White's Credit Clothing
Store on Water Street in Port
Huron, I noticed it was jammed
with boys and their mothers.
The boys were trying on suits.
And though Mr. White certain-
ly had no edge on his competi-
tors in location of his store or
superior merchandise, he out-
sold the other boys' clothing
dealers many times over.

One day I asked Whitey how
he did it. He grinned. "I just
apply a little of the newfangled
psychology," he said. "When a
lad comes in for a suit, I ask
the usual questions about price,
style, color and whether wool
causes itching. I let him try on
a couple of jackets for size and
style, as any salesman does.

"But," he said, bringing up a
handful of dimes from his
jacket pocket, "I always keep a
goodly supply of these coins on
hand."

After selecting the suit he
thought most becoming to the
boy, Whitey always slipped a
dime into the right-hand coat
pocket.

"The first thing the average
kid does when he puts on a new
coat is to dig into this pocket.
Once his fist has closed over the
dime, I defy anyone to get the
suit away."—A. B. BUCKERIDGE

To lick this problem for earth-bound mortals, however, an answer may well be found in alloying. And that brings us to cerium, the last of our precious metals. Cerium is one of the family of "misch" metals—so-called because they are usually produced mixed with others, rather than pure. For a long time they were only a curiosity because of their sparking properties. They went into the making of lighter flints, for instance.

Along about 1922, scientists started throwing cerium and the other misch metals into everything in the table of elements. They learned that cerium improved the high-temperature qualities of magnesium, the ductility of nickel, the strength of steel, and so on.

Experiments are still going on. When you consider how many combinations of metallic elements are possible, by varying the number and the amount, you can see that we still have a long way to go. But one thing seems certain: cerium is going to be one of our important metals for the helping hand it gives almost all the others.

SCIENCE is solving new mysteries every day, but the end is not in sight. Prices are still high—sheet titanium, for instance, costs \$15 to \$20 a pound, as compared to about 50 cents a pound for stainless steel!

And there is much that we do not know. In the area of supersonic flight, for instance, where titanium and molybdenum may be of importance, we are still learning. In a recent test flight, technicians were worried about how to keep temperatures down. They were particularly concerned for the pilot, his engines generating terrific heat and friction adding to the problem.

What actually happened is something the experts are still trying to figure out. The pilot reported that he almost froze to death! Whether this was due to some physical reaction impossible to foresee, or to imperfect planning, is something the Defense Department isn't talking about.

The mysteries remain. But already we've come a long way—from lamp filaments and lighter flints to photoelectric cells and space ships. With the aid of these "precious" metals, industry is forging new swords—and new plowshares, too.

END

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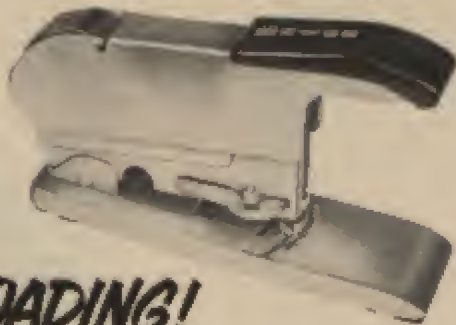
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Point Four Corporations

(Continued from page 37)

The voluminous tax bill ground slowly through the House Ways and Means Committee, passed the House and went to the Senate. After open hearings, the Senate Finance Committee met behind closed doors with representatives of the Treasury and Joint Committee to rewrite the bill.

At this time, Thomas N. Tarleau, the legislative liaison man of the Treasury, was persuaded to have lunch on the Washington Hotel roof with other interested government representatives. In the discussion, the present 95-90 per cent formula, a variation on Mr. Carroll's original idea, was suggested. Mr. Tarleau scribbled it down and said he would do his best, but could not guarantee results this late in the game.

When the printed bill came to the State Department, an assistant secretary was sent to the Hill to protest. He complained the bill was discriminatory, because the exemption favored only one area, the Western Hemisphere. Senator George replied this should have been thought of before, and it was too late then.

Thus the WHTC law remained except for some technical changes of rates. The tax cut is still more than 14 per cent, exclusive of the excess profits tax forgiveness.

Congress' intention was spelled out as a guide in the Senate Finance Committee report:

"It has been found impracticable for a parent corporation having many interests in Central or South America to carry on business there in its own name. As a matter of economy and efficiency, it is necessary to organize a subsidiary corporation to act in its place. These subsidiaries while organized within the U. S. conduct their entire operations outside and therefore do not compete with purely domestic companies. Your committee feels it is wise to encourage such corporations to stimulate American trade abroad. Proper safeguards are inserted to make it clear that the relief will not apply unless both the parent and subsidiary are engaged

in a trade or business (not merely holding companies) and the subsidiary does not receive income from within the United States. . .

"In addition, the entire trade must be carried on in the Americas or adjacent area. However, merely incidental economic contact with countries outside this sphere will not place such corporations outside the exempt class. For example, A corporation is engaged in mining in South America and ships its products to foreign countries. The mere fact that A ships its ore to England, retaining title to such goods until acceptance of the bill of lading and draft in order to insure collection of the price, will not be considered as carrying on business outside the Western Hemisphere."

Within this snug framework, several ways of doing business are suggested. Actually, only one has the unqualified endorsement of the Treasury.

Robert Pratesi, the author or co-author of many Bureau of Internal Revenue rulings on the WHTC law, told the Institute on Federal Taxes:

"It is the considered opinion of the writer that a corporation seeking to avail itself of the benefits of section 109 may well give serious thought to the establishment of an office or branch in the prescribed area for the purpose of making its sales in that area."

One large American corporation which took this advice is Cooper-Bessemer of Mount Vernon, Ohio,

with branches at Caracas and Sao Paulo and agents elsewhere in the Southern Hemisphere. The firm manufactures diesel engines.

Another method sometimes tried is the hypothetical case of the mythical Bronx Screw Company of New York which creates a new subsidiary for Latin American export, the Bronx Screw Company for the Western Hemisphere. The parent manufactures and sells screws to the subsidiary at a reasonable profit, and the latter employs salesmen in Latin America. A customer in Venezuela orders 1,000 gross of screws. They are shipped F.O.B. Caracas with the bill of lading made out to the National City Bank of Caracas as the subsidiary's agent.

The bank endorses the bill of lading, so the sale is legally consummated in Latin America. This is to satisfy the Treasury that the subsidiary is actually doing business in Latin America.

A slight variation, and one that meets Treasury approval, is for the parent company to ship goods to the main office of its Western Hemisphere subsidiary in this country and then bill it for the goods.

The WHTC, in turn, ships to its Latin American branches, where the product is sold to the customer. One leading drug firm has its WHTC package and ship throughout Latin America.

The advantages of this little-known act are impressive.

Specifically, the tax benefits are: a 27 per cent credit against both normal and surtax net income (30 per cent after March 3, 1954), exemption from the excess profits tax, 85 per cent of the dividends from a WHTC allowed as a credit to the parent corporation, and a deduction of \$25,000 for each subsidiary before assessment of the surtax. Also, the interest and dividends paid by a WHTC qualify as gross income from sources outside the U. S., and are not taxable to an alien, nonresident investor.

In addition to the WHTC law, an American company operating overseas is entitled to a credit for any income taxes paid a foreign government.

Quite apart from these fiscal rewards, there is value in these uneasy times of being an Ameri-



can corporation rather than settling down, say in Argentina, as a locally incorporated company. The prestige of the United States plus its patent protection is on the side of the WHTC.

Stacked against these benefits are headaches, pitfalls and added expenses. One company that has been through the mill advises others not to tackle WHTC unless a clear tax savings of \$100,000 is in the cards.

Some of these problems can be avoided by taking them out in the light, looking at them closely, and getting the best legal counsel.

The rules of this game, the law and rulings by the Treasury, are vague and often confusing. Decisions on compliance are made by field agents of the Bureau of Internal Revenue, who sometimes rule differently on borderline cases. It is well to know that the Treasury is tough on any company suspected of being set up to dodge taxes. Also, the Bureau will not give advance rulings on eligibility. It is like going over Niagara Falls in a barrel—you don't know until you reach the bottom whether you will make it safely or not.

THE biggest headache, and one that defeats many American companies legitimately doing business in the Western Hemisphere, is 52 words in the law:

"If 95 per centum or more of the gross income of such domestic corporation for the three-year period immediately preceding the close of the taxable year (or for such part of such period during which the corporation was in existence) was derived from sources other than a source within the U. S. . . ."

These innocent sounding words conceal booby traps. These snares are a source of constant friction, which could almost be dubbed guerrilla warfare, between the Bureau and taxpayers.

For example, according to a section of the complex tax code, income from the sale abroad of goods produced in the United States is regarded as only *partly* from sources outside. This means that a New York company manufacturing and selling screws directly to customers in Ecuador will not qualify for the exemption. This is because under this ruling less than 95 per cent of its gross income will be from without the U. S. So, the manufacturer must set up a subsidiary which buys the screws and sells them in Ecuador. This also permits the parent to sell directly to European markets without jeopardizing the subsidiary's attrac-

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tive WHTC law exemption. The real poser in the law is how to prove to Uncle Sam that 95 per cent of the gross income actually came from sources outside the U. S.

Ordinarily, this would not be too much of a problem, except for a section in the labyrinth of federal taxation. It lays down the rule that income from the sale of property within this country is taxable, regardless of the destination of the property. If the sale of 1,000 gross of screws is made by the company's sales manager to a Brazilian purchasing agent over a glass of beer in the Waldorf men's bar, this will be classed as income from sources inside the United States.

AFTER arguments with tax lawyers, the Treasury finally ruled the sale is consummated where the title passes. The American Law Institute demanded, "Is this a realistic test? Shouldn't the destination control the source of income?" In other words, if the screws sold over a drink in the Waldorf bar are going to Brazil, should not that satisfy the Treasury, instead of forcing business to set up an elaborate rigamarole to make sure the title passes physically in Brazil? Another point in the still furious debate is that it is a customary business practice when dealing with strangers not to deliver the goods until the money is paid. The title-passing ruling makes this pretty difficult.

However, one set of Western Hemisphere trade corporations prefers the title-passing rule. These are U. S. mining and manufacturing subsidiaries in Latin America who sell in the United States. Under their operations, the beneficial title passes in the Western Hemisphere. The Treasury is holding firm, and its General Counsel ruled:

"This office adopts the general rule... a sale is consummated at the place where the seller surrenders all right, title and interest to the buyer. In cases in which the bare legal title is retained by the seller, the sale will occur at the time and place of the passage to the buyer of the beneficial ownership and the risk of loss."

The memo sternly warned: "In any case in which the sales transaction is arranged in a particular manner for the primary purpose of tax avoidance, the foregoing rules will not be applied. In such cases... the sale will be treated as having been consummated at the place where the substance of the sale occurred."

This means that a device tried by

smaller companies to avoid the expense of a branch office is risky. This is to ship from New York F.O.B. a foreign port or put in the contract that the title stays with the company until the delivery is actually made. In the first case, payment is made against draft when the order arrives. The necessary papers are sent to the company's agent or bank with orders to deliver them only on payment.

Other pitfalls are:

1. Can a Western Hemisphere corporation buy outside the hemisphere? At least one company lost its exemption because it bought materials in Europe. The Treasury agent decided that purchasing abroad is as much a business activity as selling. This so stirred up the American Bar Association that an informal representation was made to the Treasury, which agreed to review the problem.

2. Can a parent company sell to its subsidiary at cost or less? The Treasury ruled all sales should be at arm's length and left the discretion up to individual revenue agents. Sales at cost have been approved, depending on foreign competition. Mr. Pratesi of the Bureau cautioned in his informative paper:

"It is believed that the prudent company executive and his tax counsel will give careful thought to the risks involved in seeking to place all profits in the subsidiary when a thorough study may indicate that the transactions are not at arm's length. Whatever pricing policy is adopted, it is good practice to be prepared to demonstrate to a revenue agent, by documented proof, that such policy reflects a wise and well considered business practice.

"A situation where a parent distorts income by shifting all its profits in Western Hemisphere transactions to its subsidiary indiscriminately when a true appraisal clearly indicates these profits are out of line may call for invoking section 45." (Section 45 allows the Bureau to re-allocate gross income and deductions where they have been juggled between subsidiaries to duck taxes.) The Bureau has just published a note of caution warning WHTC companies to deal at arm's length.

3. How are royalties from licensing arrangements or dividends from shares of foreign subsidiaries considered? The law is that at least 90 per cent of the gross income must come from the "active conduct of a trade or business." One tax lawyer, Joseph S. Cardinale, recommends, "It would be ad-

visible for a WHTC not to be a party to a licensing arrangement or the recipient of dividends."

Many businesses finding the WHTC law with its vague wording and series of rulings wonder why it has not been rewritten by Congress. There is a steady wind of pressure for revising it.

Many export businesses and tax lawyers believe, for one thing, the source of income should be decided by the simple rule of responsibility in case of loss, instead of where the title passes. The working level of the Treasury, on the other hand, wants to tighten the law so there will be no argument over the validity of its rulings.

Both the Treasury and responsible exporters want to lock the door to chiselers and tax dodgers. If too many of them crowd into the WHTC, Congress might throw out the law altogether. The Treasury, particularly, frowns on brokers who operate out of cubbyholes in Manhattan, and would like to see added to the law a provision that only companies physically doing business on the scene outside the U. S. be eligible for WHTC. The tar-

gets of this proposal have an answer, too. They claim their business is on the up-and-up, and, if they are forced to locate physically in Latin America, the loser will be the Treasury. Their reasoning is they will have to pay taxes where they locate, and foreign taxes are credited against U. S. levies.

An alternative or supplement to the WHTC law, as a tax incentive to foreign trade, has the backing of both the House Ways and Means Committee and the Mutual Security Agency. This is the Simpson bill (Rep. Richard M. Simpson, R. Pa.) recommended in the Maffry report which would exempt foreign subsidiaries from paying taxes on income earned abroad until it is brought home. The subsidiary could invest accumulated profits and earnings in the foreign land tax free, but when the funds were returned for investment, dividend payments, and the like, they would be taxed.

Meanwhile, the 127 words of the Western Hemisphere Trade Corporation bill offer a tangible reward for capital and know-how looking around for new markets. **END**

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INSANITY AHOY

What can happen when a father decides it would be fun to build a model boat for his young son

By NATHANIEL BENCHLEY

A FEW months ago, for reasons that are now becoming obscure, I decided to build a model sailboat. The reasons, as clearly as I can remember them, were that the boat would be a good thing for my younger son to sail in the lake in the park, and also that the building of it would be a good thing for me. It would combine the relaxing aspects of having a hobby with the obvious advantages of keeping me out of air-conditioned saloons. At least, I think those were my reasons; they seem fairly ludicrous now, in view of what happened.

In the first place, it should be pointed out that, as a hobby, model shipbuilding is nothing that a man can spend only part of his time on, because the thought and the worry that go into it can take up all his waking hours, whether or not he is actually doing anything about it. I spent literally days brooding about how to belay a jib sheet fairlead, and during that time all at-

tempts at legitimate work were little short of a mockery.

My friends remarked that I had a permanent, glassy stare in my eyes, and more than once my wife observed that if I had to have a hobby I might at least have chosen something practical, like counterfeiting. My only answer was a low, throaty snarl, which did little or nothing to improve the general atmosphere around the home.

The advertisement which started it all off said that "all the finished fittings in the set make for a quick and easy assembly," and with this reassuring thought in mind I asked my son if he'd like me to make a boat for him.

"Sure," he replied quickly. "You know what? Jimmy Talbot's got the measles."

"That's too bad," I said. "I mean it, though. Would you like a boat?"

"Sure," he said again. "You want to hear something funny? We were in the—"

"Listen, you don't have to be polite about this," I interrupted. "I won't make it if you don't want it." At that he broke into uncontrollable laughter, and after trying some more to get an enthusiastic answer from him I left the room. He'll like it when I get it done, I told myself. And anyway, it'll be good for me to build it. Quick and easy assembly—that's what's the fun of it. His laughter should have been a warning to me, but at the time it only upset me.

When the kit arrived, I thought at first that they'd forgotten to pack most of the materials. There were a few slabs of balsa in assorted lengths, some envelopes containing what looked like ants, and a sheet of instructions about the size of a newspaper.

I rummaged through the box, looking for something that even faintly resembled a boat, or a part of a boat, and then unfolded the instruction sheet to see if that would give me a hint. I looked at it once, then dropped it and went out to the pantry and made a drink.

Returning with my drink, I picked up the sheet and read:

Step 1. Study the plans and photographs and read the instructions carefully before starting to build. Thus you will avoid errors in construction.

So far so good, I thought. Then I went on to the next steps, and with a feeling of panic I read:

... keel doublers go flat on the inner side of the bottom, each side of the strongback, at frame 3. The short pieces aft and the long pieces forward of the frame. The deck pad doublers go on the underside of the deck, one each at the jib sheet fair-leads. . . . Having the face with the long hole to land on the hull, assemble a pair of angles and the fin, passing an eyelet through the round holes . . . with the eyelet flange down on a block of iron (or vise) and use a center punch or large nail to start flaring the eyelet. . . . use one of the small escutcheon pins, lightly riveting over the cut end as before . . . have the port side short piece at one end of the mast and the short starboard piece at the opposite end. . . . The gooseneck strap on the boom is handled the same way as the gudgeon straps on the rudder and the two screw eyes have to be cut before putting in, otherwise the end of the screw will interfere with the sail slot . . . finish up the shrouds by taking them one at a time and passing the end of the shroud through one hole of the toggle or bowsie, then through the chainplate eye, then tie off the end in the other hole of the toggle. . . . Belay the outhaul of the mainsail to the small cleat on the boom . . . and many hours of sailing pleasure should be yours.

I put the instructions down, and stared out the window for a long

time. Then I looked back into the box, and finally I recognized something. It appeared to be a rudder—that is, it was in the shape of a rudder—but the only trouble was that it was a *hole* in the shape of a rudder. It was the piece of wood from which the rudder had been cut.

Whimpering softly, I left the house and went to a nearby saloon, where I stayed until my son had gone to bed.

The next day, with something less than a clear eye, I read the instructions again, and then, step by step, began to put the boat together. I had just fitted the frames to the strongback, and was wondering what the bow blocks should look like, when my son came in.

"Yikes," he said. "What's that?"

"It's your boat," I replied, without looking up.

He was quiet for a moment. "Paint it red," he said, finally, and left.

THERE is no point in recounting here the step-by-step construction of the boat, but there are a few things I learned during the process that might be of interest to anyone who is considering model building as a hobby. In the first place, the names of the tools and the hardware seem to have changed radically since the last time I wielded a hammer.

I remember distinctly the time when a nail was a nail, a very small nail was a brad, and an extremely thin thing that looked like a nail was called a pin. Now, if you please, a pin is a lill pin, a brad is either an escutcheon pin or a rivet (and it is never called the same thing twice in succession), and what appears to be a large brad is a truck and cleat escutcheon pin.

All this may be fine for the professionals, but for the amateur model builder it results in nothing except hopeless confusion. The only way to keep your sanity is to dump all the fittings into a box and then use them indiscriminately, without caring whether it's a lill pin, an escutcheon pin, or a jump strut socket you're using. The model will look pretty much the same, anyway, because they're all so small that nobody can tell the difference. And, so long as it floats, who cares?

And another thing—the directions are likely to be deceptively simple, and something that is covered by one sentence may take two or three days to accomplish. Take, for instance, the matter of the sides of the boat. The instructions say simply, "Glue the sides in place,

holding with pins until dry." The sides, theoretically made of balsa, suddenly seem to have been fashioned from spring steel, and it requires the strength of a professional wrestler even to bend them into place, let alone hold them there. A side piece, springing back out of position, can give the model builder a painfully split lip, and if it is studded with the pins which are supposed to hold it in place, it takes on all the cuddly aspects of a medieval crossbow.

I SOLVED the problem by putting the boat on the floor and crouching over it, putting all my weight on each side piece until the glue had dried, which turned out to be a matter of several hours. My face was an unattractive shade of purple by the time this part of the construction was over, and the pin holes in the sides gave the boat the appearance of having been through a major naval engagement.

But it is in the matter of the rigging that the model builder is faced with his sternest test. (We must first assume that he can understand directions such as "Make fast one end in the eye of the clew of the jib, then lead the sheet inboard of the shrouds, through the fair-lead eye, across the deck, through the other eye, inboard of the other shrouds and make the end fast in the clew eye.")

Let us say that he retires to his den after dinner, all set for a peaceful hour or so with his model. The mast has not yet been stepped in the boat, so he must first find some way of keeping it upright, without going to all the trouble of drilling a hole in the coffee table. With this accomplished (I found that the best way was to wedge it in the telephone, between the handpiece and the cradle), he takes a piece of rigging twine, and aims it at the hole in a spreader tang. After his fourth attempt, the end of the twine begins to resemble the tail of a cow, and our model builder is realizing that that third cocktail before dinner is still with him.

The sudden thought takes hold of him that perhaps he is developing palsy, because he's never seen his hand shake quite so badly. (It is a medically acknowledged fact that the harder you try to hold still, the more likely you are to shake, but this doesn't occur to a man whose hand has suddenly begun to act like a pneumatic drill.) He cuts off the end of the twine and starts anew, making a mental note to call his doctor if things aren't better in the morning. Finally, and

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The WEBER is your answer to low-cost, mechanical addressing of envelopes, post cards, folders, etc. Prints from type-written paper roll which is easily prepared and can be used up to 100 times. As roll prints, names are automatically moved into printing position. Addressed piece is automatically thrown into receiving tray. A real time-saver if you're mailing repeatedly to 50 or more names.

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Send for folder and name of dealer

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Send folder on A-3 Addressing Machine and name of nearest dealer.

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usually with the help of his wife, he gets the piece of rigging threaded, and after the process has been repeated two or three times he's ready for a bromide and bed.

When about three quarters of the rigging has been attached to the mast, a new hazard sets in. There is, obviously, a fine tangle of loose twine around the base of the mast, and, unless a man is extremely careful, he may mistake the free end of an already attached piece of rigging for the free end of the extra twine, and in so doing he will rethread it back to some other part of the mast. This results in a sagging loop that will serve no nautical purpose whatsoever, but it may easily induce apoplexy in the model builder when his mistake is discovered.

The only sure way to avoid making this mistake is to hold all the free ends in your mouth, but even that has its drawbacks. For one thing, the twine is likely to become knotted in your mouth, or may even strangle you, if you start to cough. Besides, it makes you look absurd.

FOR the model builder who does not have an actual workshop, the business of house space presents an additional problem. It is physically impossible to pick up, at the end of each day, the assorted odds and ends that seem to spring from the box and distribute themselves about the room. Also, sandpaper dust has a way of covering everything in sight with a fine, white coating, and it is by far the most sensible idea to allocate one room to the construction of the model, and don't try to clean it until everything has been completed.

In my case, the place where I built my model was known as Father's Workroom, and, in common with many such places, it was the one room in the house where everybody liked to sit. Gradually, the floor and chairs and table began to fill up with sandpaper dust, balsa shavings, tool cases, paint cans, torn pieces of the instruction sheet, paint brushes, turpentine bottles, beer bottles, and, of course, the hull and spars and fittings of the boat. As each item was painted, I had to hang it from something until it dried, and the lamps and the overhead lights were festooned with dripping pieces of boat, until the whole room was booby-trapped against any unwary visitor.

My wife accepted this cheerfully enough, and agreed to entertain guests in the living room until I was through with my little hobby, but she wasn't quite so brave about

it all when I, in an occasional burst of friendliness, came into the living room for a chat and brought my sandpapering with me. That, she maintained, constituted committing a nuisance in public, and she gave the impression that I would either be sociable or I would work on my blasted boat, but that I would not do both. Faced with this ultimatum, I stayed in Father's Workroom and came out only for food or drink.

Once or twice we went out for dinner, but I was so preoccupied with the problem of how to rivet the escutcheon pins through the gudgeon straps on the rudder that I wasn't very good company, and we came home early. My usual routine in these cases was to work on the boat for a while, and then go out to a saloon and brood about how to accomplish the next step. Socially, the whole arrangement was less than satisfactory.

Gradually, as the boat neared completion, I began to develop a feeling for it comparable to that of a vixen for her young. My son would come in and look at it and say, "Yikes," to which I would reply, "Stay AWAY from that!" and he would scurry from the room and hide somewhere until I was safely out of the house. The day I stepped the mast was known as Black Saturday, because I found that I had somehow cross-rigged a couple of shrouds, which necessitated a great deal of cutting, rerigging,

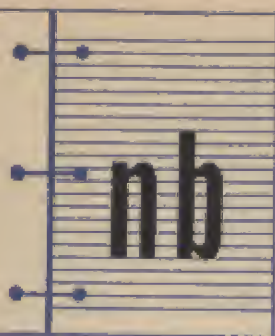


and shouting for extra twine, while I tried to hold the mast in place and not snap off the shrouds that had been correctly rigged and set up taut.

It was like trying to juggle neckties in a high wind, but somehow I made it, and in no time at all (Tuesday) my wife was speaking to me again. Then the sails were rigged, with no more trouble than it takes to make a watch, and the boat was finished. I set it on top of the bookcase in the workroom, and admired it for two solid hours.

Once or twice since then, my son has wondered audibly if it would really float, but I am not going to be taken in by any of his taunts. The first person who so much as lays a finger on that boat is going to get his hand cut off at the wrist, and I happen to have the tools with which to do it.

END



notebook

Thrift begins at home

ALTHOUGH federal taxes and expenses have been stealing most of the recent headlines, many tax experts have been interesting themselves in targets nearer home, a form of hunting which offers game big enough to satisfy almost anybody.

According to the Northwestern National Life Insurance Company, state and local budgets have fattened so rapidly in the past few years that anyone who could bring them down would put meat on a lot of tables.

The company's figures show that state government expenditures—not including unemployment contributions, federal grants or debt retirement—grew from \$3,565,000,000 in 1940 to more than \$11,000,000,000 in 1952. Local government spending increased from about \$5,000,000,000 to \$11,000,000,000 in the same period.

Indications are that this growth is about to cease. At least many of the 44 state governments whose legislatures meet this year are on record as opposing it. Typical of the governors' views was that of Gov. Frank J. Lausche of Ohio, who declared his state would "assume no new financial obligations or public services of a purely local character and would stop the constant upward trend of the demands of local governments for increased financial aid and subsidies."

Standardized colors

WHEN the average wife tells the average husband that her new dress is "charcoal," or "sand," or "frozen spinach," he takes her word for it with the mental reservation that present-day color nomenclature has become a matter of whimsy. In this he is very wrong, as his next encounter with a traffic sign should show him. That sign gives its warning as much by its standardized color as by its printed word.

Color has flowed into so many fields of business, and chemistry has provided so many possible tints

and shades that, to avoid chaos, most industries, organizations and government agencies have standardized their requirements in this field.

There are, for instance, standards for aviation obstruction markings, artists' oil paints, camouflage, carpets and rugs, cast stone, tile, the U. S. flag, maple syrup and McIntosh apple leaves. All of these and many others have been gathered into charts and descriptions available to those who need them—if those who need them know where to look.

To meet this last requirement American Color Trends, division of Faber Birren & Company, has just issued "Color Standards and Color Research," a bibliography of reference material on color requirements. With it, the man who has to know the proper colors for school furniture, signal glasses, or piping systems will have addresses of authorities on these matters at his fingertips.

The color tab at the top of this page is NATION'S BUSINESS' own standardization of color, blue B-507.

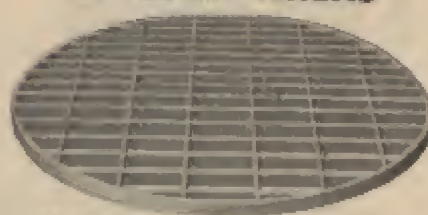
Era of good eating

THOSE WHOSE mouths have watered at the thought of old-time Sybaritic feasts when dining was not only an art but a way of life have simply been oversold on the past.

We are able to bring this information through the courtesy of George Mardikian of Omar Khayyam's restaurant in San Francisco. In commenting on Richard Gehman's recent article in NATION'S BUSINESS about chefs, Mr. Mardikian gave us his own observations about the present state of the American table.

"We have gone a long way from the drab cookery of yesteryear and the onetime era when good eating was a lost art," said Mr. Mardikian. "Now we are emerging into an era of good eating such as we have never enjoyed before. I believe there has been in recent years a great growth in food appreciation

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A vital message to the head of the family

Two ways you can
protect your family
against CANCER

... a check
... a check-up

Cancer strikes in one of every two families. Each year more than 60,000 American children under the age of eighteen lose a parent to cancer.

Yet many cancers can be cured, if discovered in time.

Every man should have a complete physical examination once a year. Women over thirty-five should have a complete physical examination twice a year.

Because of scientific advances, patients are being cured today who could not have been saved even five years ago.

The American Cancer Society asks your help in the fight against cancer. Your check today will help pay for costly research. Will help keep physicians informed of latest developments in detection and treatment. Will help pay for the training of doctors to specialize in cancer.

How soon we find cancer's cause and cure depends on how soon and how much help comes from people like you.

Invest your money today for your family's security tomorrow.

"Cancer" c/o Postmaster, (Your town)

Please send me free literature about cancer.

Enclosed is my contribution of \$_____ to the cancer crusade.

Name _____

Address _____

City _____ State _____

Cancer strikes One in Five
STRIKE BACK...
Give to Conquer Cancer

in America as an outgrowth of World War II when the American homemaker was forced to use her ingenuity to maintain attractive and health-maintaining menus. . . . We have everything that makes for world reputation of the highest order in the realm of foods and good eating. We have the facilities for growing and preserving and serving foods in natural form. We have the cultivated tastes of millions of young men who have served their country overseas and have become accustomed to eating the finest foods in all parts of the world. These young men have acquired a knowledge that will inevitably result in a demand for a widely developed cuisine."

As for the problem, "Who will prepare this food?" Mr. Mardikian does not share the Gehman belief that chefs are a disappearing race. He calls attention to the schools of restaurant management in the City College of San Francisco and at Cornell University which "are raising the status of chef-ery in the common knowledge of laymen as a professional occupation and raising the status of chef in the minds of young people as a profession worthy of their interest and efforts."

And, for those who prefer to eat at home, Mr. Mardikian offers this tip: "Compliment those who do the home cooking."

"This will induce them to strive for even higher culinary achievements."

Job-hunters' handbook

PERSONNEL people are already in contact with the first eager out-riders from an invasion which reaches its height in June when high school graduates are clamoring for jobs—a phenomenon which has been called the country's biggest internal mass movement.

Eager as most companies are to employ qualified young people, the applicants bring more than their share of headaches because, as one personnel man puts it, "people walk into our offices without the vaguest idea of what we do here. They've heard a great deal about our company but they are not familiar with our internal organization, what skills are useful and what sort of training we are looking for."

The graduate's logical answer to this lament is that his only way to find out what companies want or do not want is to ask somebody. If that somebody could answer for all the firms in town, everybody would be happier.

In Cincinnati, Oliver P. Bardes has volunteered to be the man with the answers. Young enough to have both sides of the student-employer problem fresh in mind, he has formed Decision, Inc., which will publish a book, "Decision," in which he hopes to package all Cincinnati job possibilities in one convenient place.

His method is to sell space in his book to local companies which agree to provide information about employment opportunities within their organization. Mr. Bardes then distributes the book, free, to high schools which give a copy of "Decision" to every graduate.

In Cincinnati, 66 companies will use the book this year. Next year Mr. Bardes hopes to expand to ten other cities.

Old magazines are ambassadors

SOMEWHERE in the Orient, as you read this, a native is probably squatting in the mud thumbing through an old issue of NATION'S BUSINESS and getting a better understanding of the United States.

He received his copy through "T for Truth With Magazines," a plan suggested by an employee of Transocean Air Lines and now backed by that company and by the U. S. State Department which hopes to spread it through the international air transportation industry.

Under the plan, Transocean personnel collect their old magazines which, as space becomes available, are loaded on departing planes for distribution gratis in Far Eastern countries. The first shipment destined for various points in the Pacific totaled 1,000 pounds.

As Pres. Orvis M. Nelson of Transocean sees it, "We who are lovers of freedom must win every supporter we can. One way to do this is to show other peoples how Americans live, for only then can they know that freedom really works. What better portrays our way of life than our magazines?"

Useless records

THE PICTURE of the harassed businessman impatient at his desk while everybody in the office hunts the letter that has been misfiled has won an established place in the gallery of American folklore.

Now Emmet J. Leahy, president of National Records Management Council, comes up with a new twist.

"Ninety-five per cent of the time," he says, "the letter wasn't important in the first place."

A study by his organization has shown that business keeps five to

eight cubic feet of records for every person employed. These records occupy office space worth \$150,000,000 a year and somewhere near \$250,000,000 worth of storage space. Of the one trillion pieces of paper thus carefully saved, Mr. Leahy estimates, more than 400,000,000,000 should be burned or sold as junk.

If they aren't, he feels that the time is not far off when business will be snowed under by an avalanche of completely meaningless paper.

He suggests:

1. Birth control of paper work to cut down creation of unnecessary records.

2. Destruction or sale as waste-paper of 40 per cent of the records now on file.

3. Division of the remaining 60 per cent between on-the-premise files and the new type archives centers.

As an example of what can be done, he points to New York City where the mayor's committee on management survey made possible destruction of papers filling file drawers which, piled one on another, would have made a stack nearly six miles high. Dollar savings to the city were nearly \$250,000 the first year, \$100,000 every year thereafter.

End of the sweater girl

THE AMERICAN sweater girl's eye-stopping ability is taken for granted; but now Patrick J. McFadden of the United States Time Corporation, Waterbury, Conn., is authority for the statement that they also stop watches. For this reason his company has to prohibit sweater wearing in the factory. It seems that the inevitable lint from sweaters gets into the watch cases.

Warning to back-seat drivers

THOSE who assume the prerogatives of back-seat drivers must be willing to share the responsibilities, in the view of the Michigan Supreme Court.

Upholding a lower court decision, the panel denied damages to a wife who was injured in an auto-train crash.

As reported by Commerce Clearing House, the court, noting her testimony that she was accustomed to watch and warn her husband when he was driving, held that she was guilty of contributory negligence in failing to see an approaching train at a familiar crossing.



Pete Progress and the skeptical scooter driver

"Knock on wood," said Harry Hamm. "Supersitious, Harry?" asked Pete Progress.

"Not exactly," said Harry. "I do it whenever anything's too good to be true."

"Such as?" asked Pete.

"Drove down Main Street an hour ago and didn't have any trouble," said Harry. "No congestion, no bottlenecks. Got my shopping done in record time."

"That's right," said Pete. "The town put in new traffic rules, improved parking conditions. The Chamber of Commerce started the whole affair."

"How come?" asked Harry.

"That's part of the chamber's business," said Pete. "Lot of fellows get together to improve the town. By giving instead of taking, they get the ball rolling on all sorts of civic projects—new schools, more parks, industrial development."

"Sounds good," said Harry. "But knock on wood. Might not last."

"It'll last as long as enough people are interested," said Pete. "I suggest you scoot along and knock on some wood at 330 Main Street."

"What's there?" asked Harry.

"The door to the chamber of commerce," said Pete. "Go in and join up—that will help to make it last."

Your chamber of commerce is working for you. Why don't you help them?



NEW FACES IN WASHINGTON



RECENTLY a group of journalists from the NATO countries arrived in Washington at the completion of a government-conducted tour that had carried them as far west as Texas and as far south as Florida. While they were making the rounds of the nation's capital, one of them—an Englishman who had made several previous visits to this country—was asked: "What interested you most on the trip?"

"The new faces in town," he replied.

These new faces are those of the men and women who are taking over the top spots in the federal Government—key officials who are now formulating our foreign and domestic policies and seeing that they are carried out. In short, the leaders of the new Administration.

American businessmen are even more deeply concerned with the newcomers. For them this month brings a chance to learn about the new team at firsthand and to meet the people who are to star on it. The opportunity will come Monday, Tuesday, Wednesday, April 27, 28, 29, when the Chamber of Commerce of the United States of America holds its 41st Annual Meeting in Washington. Spokesmen for the new Administration will be featured. Incidentally, for many of them this will be the first appearance before a major national organization representing such broad community interests as the National Chamber.

For several months the National Chamber's staff has been working out the details of the coming three-day program. It can be one of the most valuable and significant meetings the organization has ever held. For when the leaders of commerce and industry and their representatives sit down to chart the course of business action for the months ahead, they will be doing so in the most favorable atmosphere in 20 years.

This year the National Chamber's annual get-together will be built around three general sessions

—one each morning. The first will be devoted to a look at America's pattern for peace; the second will explore ways to provide better living for more people; the final session—on Wednesday—will take stock of our resources—both human and natural. Key government officials and leaders of business will be on the rostrum for each of these meetings.

The luncheon hours are as brimming as the morning ones. On Monday two highly important subjects will be discussed: bringing taxes down to earth; and a positive approach to world peace. Several departmental lunches are scheduled for Tuesday. Housing a growing America and revision of the Taft-Hartley Act are but two of the timely topics to be served up.

Tuesday might also be called Ladies' Day. Two impressive events have been arranged for women attending the Annual Meeting. First up is the always popular luncheon. This year's featured speakers are Mrs. Fleur Cowles, associate editor of *Look* and *Quick* magazines, and Dr. Althea K. Hottel, dean of women, University of Pennsylvania. Their theme will be "Informed Thinking—Essential for Effective Citizenship."

In the afternoon Mrs. Dwight D. Eisenhower has invited the women to a reception at the White House. (The names of those who will attend must be submitted to the White House before April 7.)

When day is done, the program is decidedly not. Monday, delegates and their guests are in for an evening of fun and entertainment at the Organization Night Dinners. The Fred Warling show will be the hit attraction.

The Congressional Dinners fall on Tuesday evening. Under the sponsorship of local, state and regional chambers of commerce, these informal get-togethers are a chance for those attending the Annual Meeting to get acquainted with their senators and representatives and to make known their views.

In the past—and this year will be no exception—the Annual Dinner has proved to be the program's outstanding event. For the first time in several years the curtain-closer will be held under one roof, at the McDonough Memorial Auditorium on the Georgetown University campus. The speakers and entertainment will be headliners and will provide a fitting finale to a memorable meeting.

And not to be forgotten is the open house at the National Chamber Building on Sunday, April 26. It's for folks who arrive a day early and who want to see the Chamber's home and meet its officers and directors.